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Digital Player

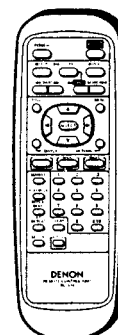
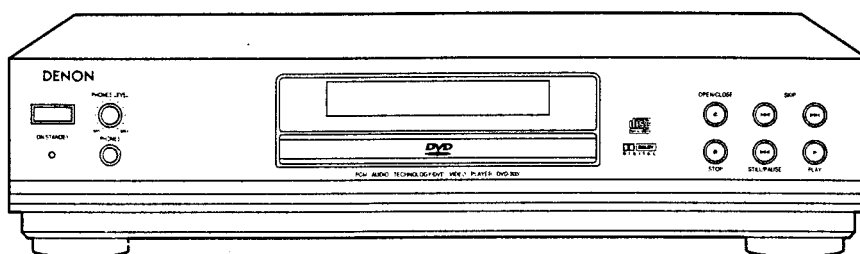


V28835

SERVICE MANUAL

MODEL DVD-3000

DVD VIDEO PLAYER



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• Some illustration using in this service manual is slightly different from the actual set.

NIPPON COLUMBIA CO., LTD.

SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1\text{M}\Omega$ and $5.2\text{M}\Omega$. When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

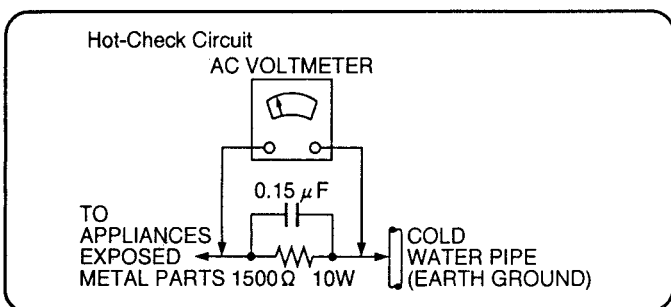


Figure 1

LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5\text{k}\Omega$, 10 watts resistor, in parallel with a $0.15\mu\text{F}$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety.

These parts are marked by Δ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

PRECAUTION OF LASER DIODE

CAUTION:

This unit utilizes a class I laser. Invisible laser radiation is emitted from the optical pickup lens when the unit is turned on:

1. Do not look directly into the pickup lens.
2. Do not use optical instruments to look at the pickup lens.
3. Do not adjust the preset variable resistor on the optical pickup.
4. Do not disassemble the optical pickup unit.
5. If the optical pickup is replaced, use the manufactures specified replacement pickup only.
6. Use of control or adjustment or performance of procedures other than those specified herein may result in hazardous radiation exposure.

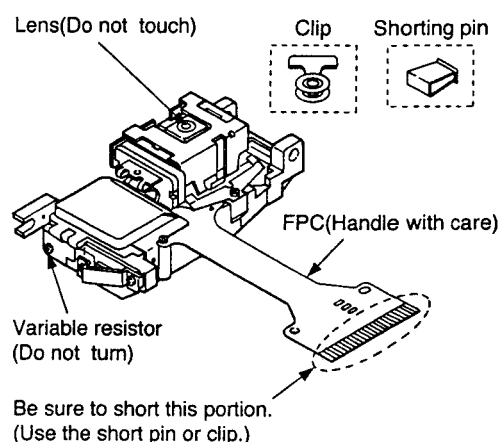
HANDLING PRECAUTIONS FOR TRAVERSE DECK

The laser diode in the optical pickup may break down due to potential difference caused by static electricity of clothes or human body.

So be careful of electrostatic break down during repair of the optical pickup.

Handling of optical pickup

1. Do not subject the optical pickup to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC Board).
When removing or connecting the short pin, finish the job in as short times as possible.
3. Be careful not to apply excessive stress to the flexible board (FPC Board)
4. Do not turn the variable resistor (Laser power adjustment). It has already been adjusted.

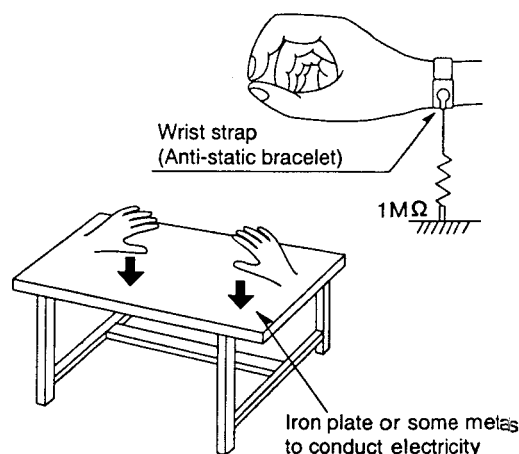


Grounding for electrostatic breakdown prevention

1. Human body grounding
Use the antistatic wrist strap to discharge the static electricity from your body.
2. Work table grounding
Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So take care not to let your clothes touch the optical pickup.



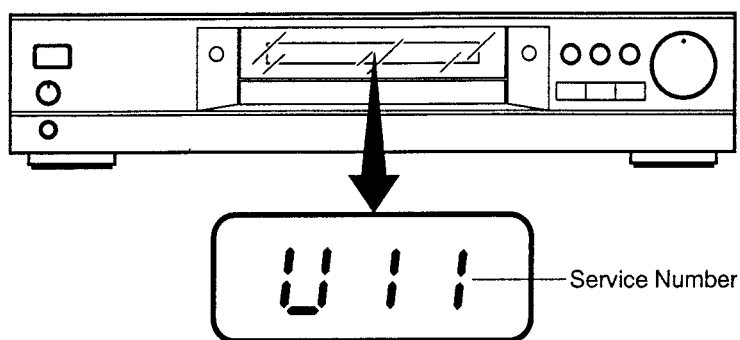
Self-Diagnosis Function for Service Number Display

This unit has a self-diagnosis function which detects a problem or malfunction within the unit and displays its corresponding service number on the display of the unit.

The Service Information Display Mode is used by the technician to help determine the source of a malfunction.

To operate the Service Information Display Mode during servicing, press the [0] (remote control unit) button while pressing the OPEN/CLOSE and STILL/PAUSE buttons simultaneously.

Please refer to the table shown below when a service number has appeared.



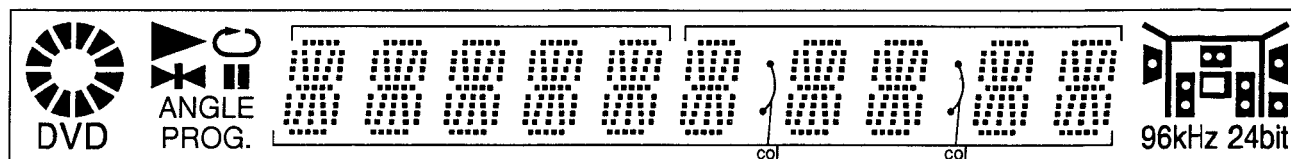
Mode	Service Number	Player State	Check Point
During Operation	U11	FOCUS TROUBLE	IC2001, IC2511, IC5201, Pick-up
	H01	TRAY LOADING TROUBLE	IC2001, IC2511, Loading motor
	H02	SPINDLE SERVO TROUBLE	Disc motor, IC2501, IC2001
	H03	TRAVERSE TROUBLE	Traverse motor, IC2511, IC2001
	H04	TRACKING SERVO TROUBLE	IC2001, IC2501, IC5201, Pick-up Disc
	H05	SEEK TROUBLE	Traverse motor, IC2511, IC2001
Service Information Display	F0**	DISC FORMAT ERROR	Disc
	F1**	DISC CODE ERROR	Disc
	F2**	DECODER LSI ERROR	IC3001, IC3201
	F3**	SDRAM ERROR	IC3051, IC6301, IC7051
	F4**	IIC BUS ERROR	IC2001, IC3201, IC4201, IC5201, IC6201, IC6312, IC7001
	F5**	DSC ERROR	IC2001
	F6**	ECC ERROR	IC7001
	F7**	MICRO PROCESSOR ERROR	IC6001, IC6201
	F8**	MICRO PROCESSOR ERROR	IC6001, IC6201

SERVICE INFORMATION

1. Lighting Confirmation Function of Display Tube

SETTING PROCEDURES

During pressing both 「STILL/PAUSE」 and 「OPEN/CLOSE」 buttons on the DVD Player, push 「9」 key of the Remote Controller and then all of the display lights, and the 「POWER」 button is pressed to release.



2. Initialization of the DVD Player

Make initialization of the DVD Player when replacing the Main p.w. board, Operation p.w. board and etc.

INITIALIZATION PROCEDURES

During pressing both 「STILL/PAUSE」 and 「SKIP/SEARCH ◀▶」 buttons simultaneously on the DVD Player, push 「POWER」 button on the DVD Player so that the unit is initialized (Factory shipping condition).

The letter of 「INITIALIZED」 is displayed on the screen.

[CAUTION]

When the initialization has been made, the contents of user initial setting is lost.

Therefore, before making initialization, previously memorize the contents of user Initial setting and set the initial setting again after initialization.

3. After Repair (Transport Method in Repair Service)

After repair, settle the traverse unit at elevation up position.

SETTLING PROCEDURES

1. Turn the power on.
2. Press the 「OPEN/CLOSE」 button to close the tray.
3. Turn the power off.
4. Disconnect the power plug from the power outlet.

[CAUTION]

Do not close the tray manually after disconnect the power plug from the power outlet in tray open condition.

In this case, the traverse is not settled at elevation up position (stand-by) so that you can't transport the unit.

4. In Case of Stopping Operation During Playback

When the unit stop during playback (no operation button operates, etc.), press the 「POWER」 button. After 5 seconds later the power will be turned off.

When the power is turned on again and the same state appears, the unit may be in trouble. Or, in case stopping operation when the specific disc is used, the cause of trouble may be in the disc itself.

5. Operation Lock Function in Salse Demonstration

This function is used to prevent the disc from loss in the salse demonstration.

When this function is set, It is not able to eject the disc and turn the power off.

SETTING PROCEDURES

During pressing the 「STOP」 button of the DVD Player, push the 「POWER」 button of the Remote Controller to make the Lock function operate.

Disconnect the power plug from the power outlet to reset this function.

6. Lens Cleaning

For cleaning, wipe the Pick-up softly with the new cotton cloth damped with ethyl alcohol.

Never wipe it strongly or the wrong influence will have on the glass coating of the Pick-up.

After cleaning, be sure to check no dirt or dust on the lens surface.

SECTION 1 ADJUSTMENT PROCEDURES

How to Remove the Disc on the Tray in Trouble

When the Disc does not eject even after pushing the OPEN/CLOSE button, remove the Disc as follows.

1. Remove the 7 screws, and remove the Top Cover
While spreading the left and right sides slightly, remove the top cover while lifting the rear portion.

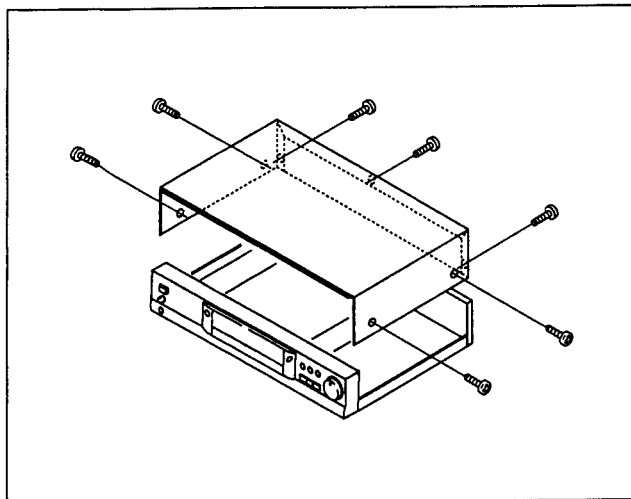


Fig. A Removal of the Top Cover

2. Remove the clamp support plate by removing the 4 screws.

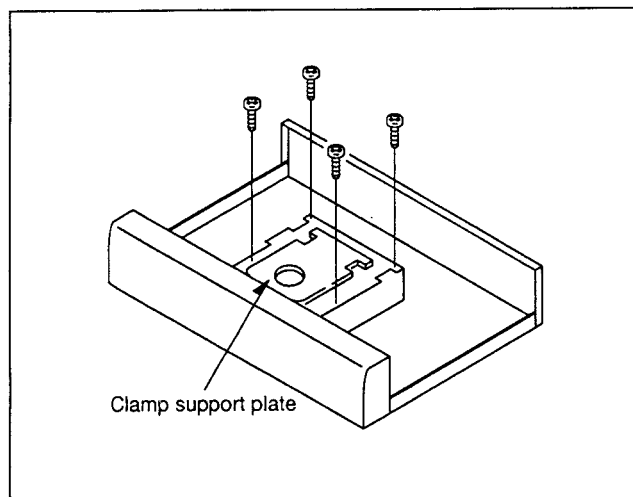


Fig. B Removal of the Clamp Support Plate

3. Remove the disc, taking care not to damage it.

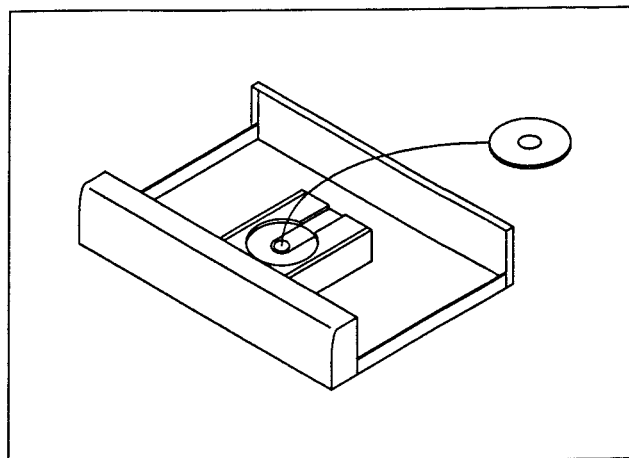


Fig. C Removal of the Disc

Disassembly, Reassembly, Replacement and Adjustment Procedures

1. Disassembling and Reassembling the Casing Parts

1-1. Removing the Top Cover

1. Remove the 7 screws, and remove the Top Cover
While spreading the left and right sides slightly, remove the top cover while lifting the rear portion.

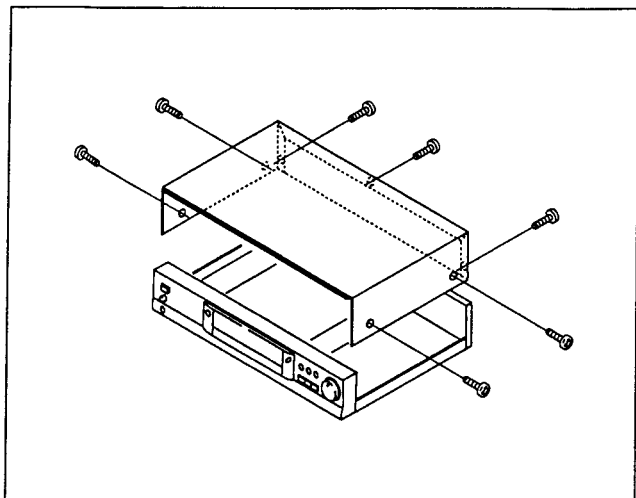


Fig. 1-1-1 Removal of the Top Cover

3. Press the Open/Close button and close the tray, then unplug the power cord.
4. Remove the flexible cables which connect the printed circuit board on the front panel with the main unit.
Then remove the 2 screws on the bracket of the front panel.

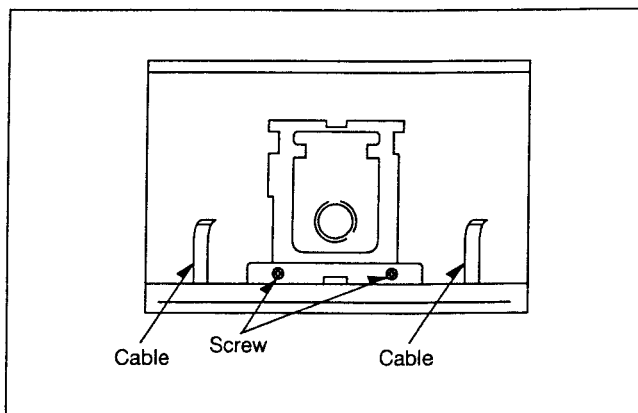
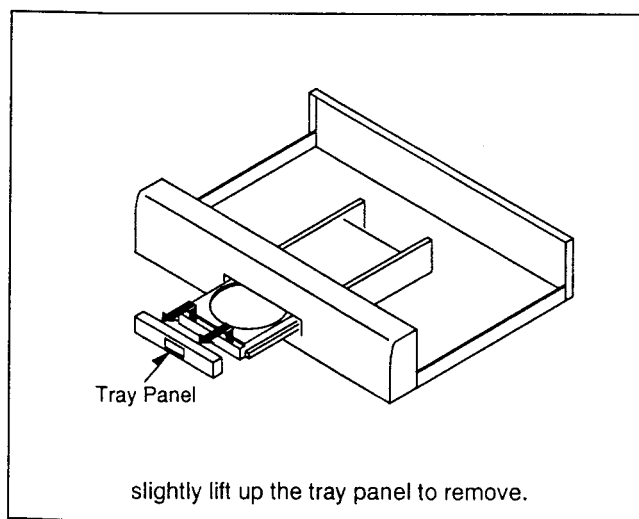


Fig. 1-2-2 Removal of the Front Panel

1-2. Removing the Front Panel

If the tray can be opened electrically.

1. Perform this operation after the top cover has already been removed.
2. Press the Open/Close button and open the tray.
If there is a disc in the tray, remove the disc, taking care not to damage it.
Then remove the tray panel attached to the front edge of the tray.



slightly lift up the tray panel to remove.

Fig. 1-2-1 Removal of the Tray Panel

5. Unhook the 3 tabs on the bottom of the front panel, the 2 tabs on both the left and right and the 2 tabs on the traverse Unit, and remove the front panel.

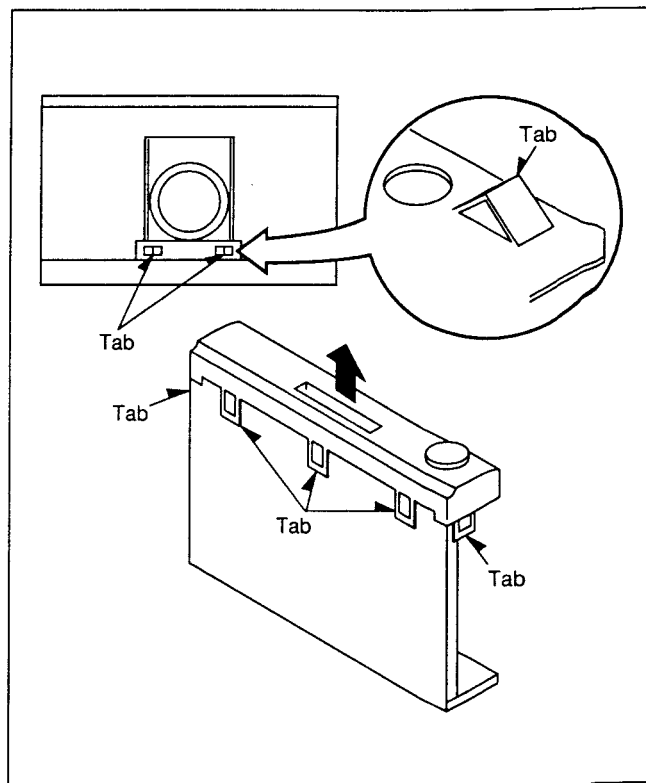


Fig. 1-2-3 Location of Tabs on the Front Panel

If the tray cannot be opened electrically (if the disc does not eject even after pushing the Open/Close button).

1. Perform this procedure after the top cover has already been removed as shown in Fig. A.
2. Remove the 4 screws on the Clamp Support Plate as shown in Fig. B.
3. If there is a disc in the tray, remove the disc, taking care not to damage it as shown in Fig. C.
Refer to "How to Remove the Disc on the Tray in Trouble" with respect to the above procedures.
4. You will see a portion of the rotary cam from the mechanism moving hole at the bottom of the unit. Use a pair of tweezers to move this section to the "Tray Open" position.

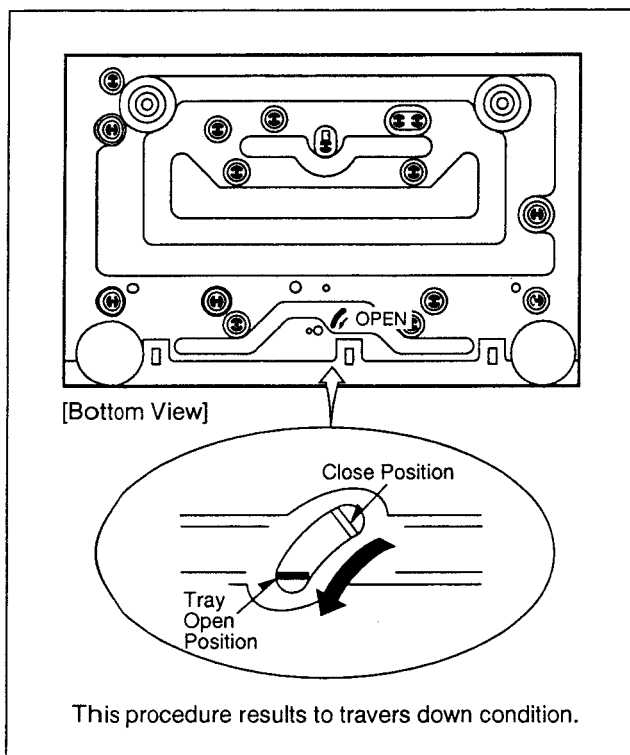


Fig. 1-2-4 Tray Open Position

5. The tray can be moved by hand to the open position.

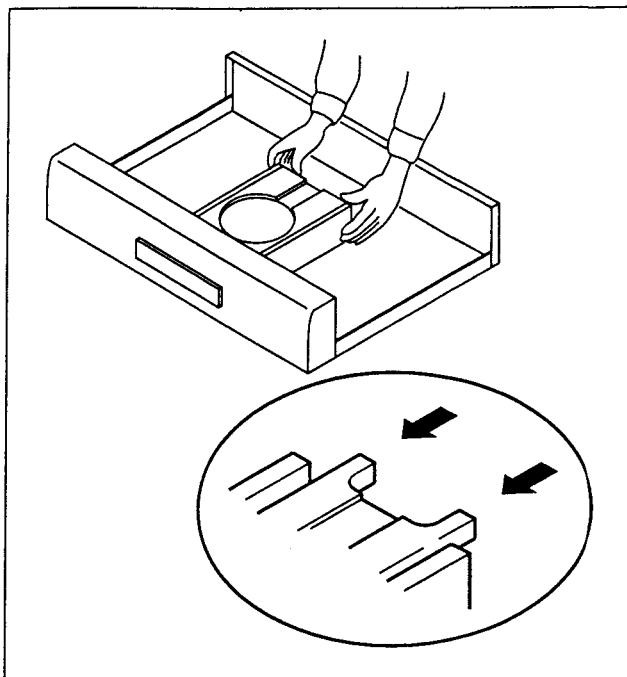


Fig. 1-2-5 Manual Movement of the Tray

6. Remove the tray panel attached to the front edge of the tray as shown in Fig. 1-2-1.
Then, load the tray manually and remove the front panel as shown in Fig. 1-2-2 and Fig. 1-2-3.

1-3. Reassembling the Casing Parts

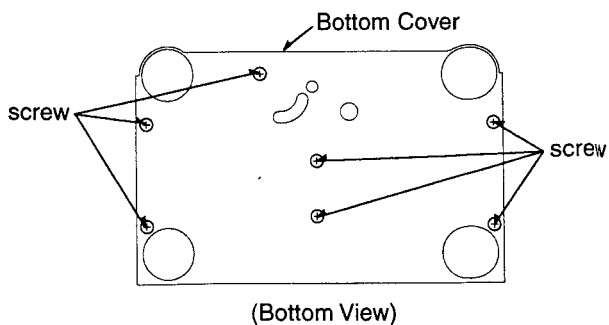
1. Assemble in the reverse order used in the disassembly.
Please obey the following:

After repair is completed, use the following procedure to settle the Traverse Unit.

1. Push the power button and turn off the power.
Verify that the stand-by lamp is on.
2. Unplug the power cord.
3. After the stand-by lamp has been on, the power cord is unplugged to settle the traverse Unit automatically.

1-4. Removing the Bottom Cover

Remove the 7 screws, and remove the Bottom Cover.



2. Disassembling and Reassembling the Loading Base

Please take proper care to prevent static electricity damage when touching the loading base. We recommend that you remove the entire loading base Unit before replacing the laser pick-up.

2-1. Removal of the Loading Base

1. Follow the "Top Cover," "Tray Panel" and "Front Panel" when removing the casing parts.

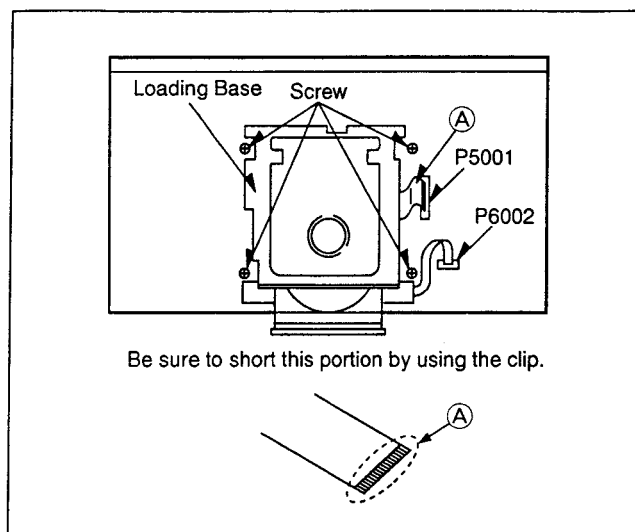


Fig. 2-1 Removal of the Loading Base

2. Remove the 2 Flexible Cables connecting the loading base and the main P.W.B. (Circuit Board Assembly)
Static electricity destroys the laser diode. After removing the flexible cable ①, short the flexible cable ① with a metal clip.
3. Remove the 4 screws attaching the Loading Base.

2-2. Disassembling the Clamp Support Plate and the Clamper

1. Remove the Clamp Support Plate from the Loading Base by removing the 4 screws.

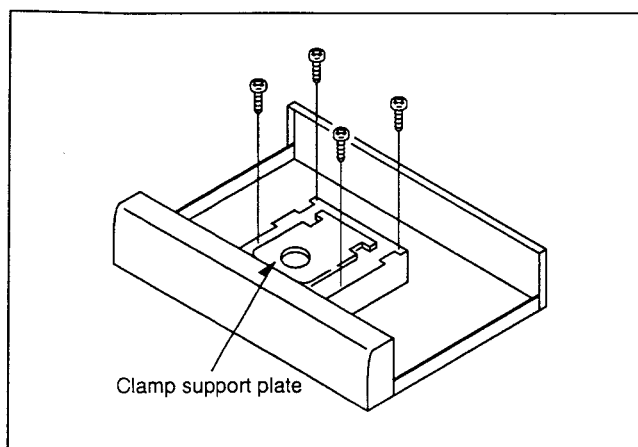


Fig. 2-2-1. Removal of the Clamp Support Plate

2. Remove the 4 screws.
3. Disassemble while unlocking the three tabs on the bottom of the clamper. Be careful not to damage these tabs.

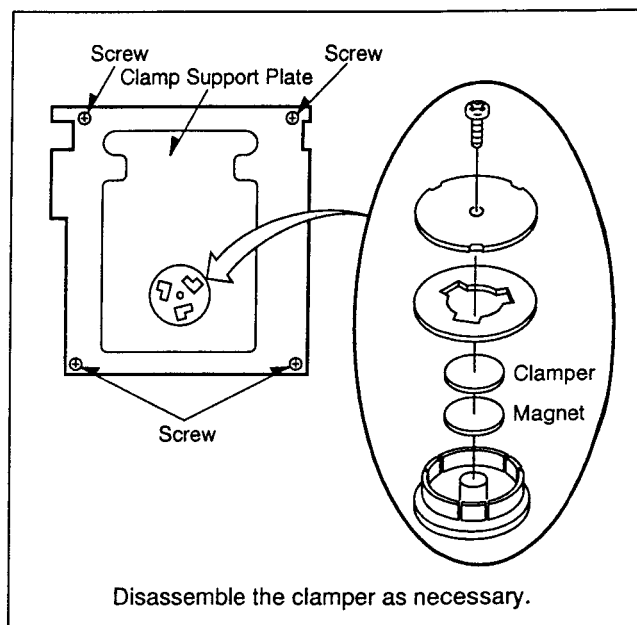


Fig. 2-2-2 Disassembly of the Clamper

2-3. Removing the Loading Tray

1. Move the portion of the Rotary Cam extending from the bottom of the loading base to the "Tray Open" position.

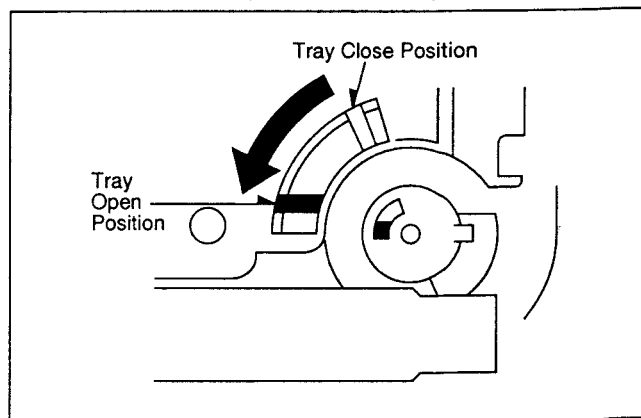


Fig. 2-3-1 Tray Open Position of the Rotary Cam

2. The tray can be manually moved to the open position.

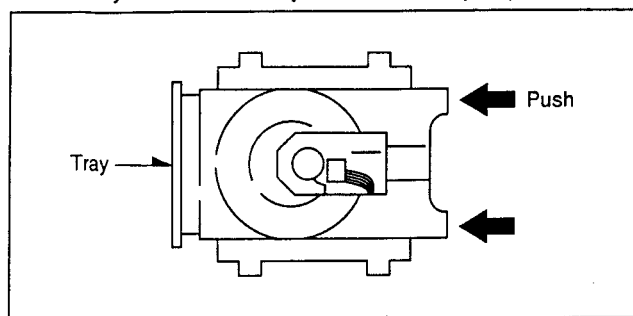


Fig. 2-3-2 Manual Movement of the Tray

3. The left and right catchers are locked so that the tray will not slip out. Therefore remove the tray while spreading these catchers outward.

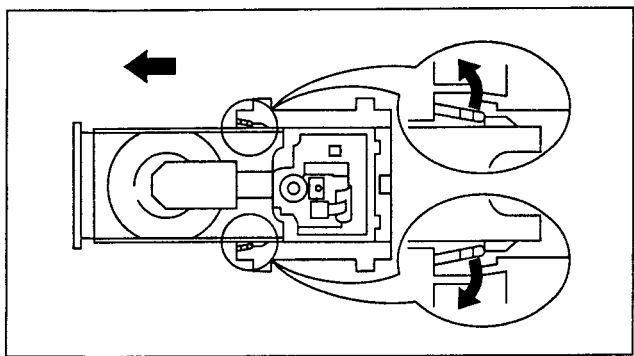


Fig. 2-3-3 Removal of the Tray

2-4. Removing the Traverse Unit

1. Remove the 2 screws setting the Rotary Support Plate Spring. Then remove the 2 screws fixing the Chassis Stoppers and the Springs (two each).

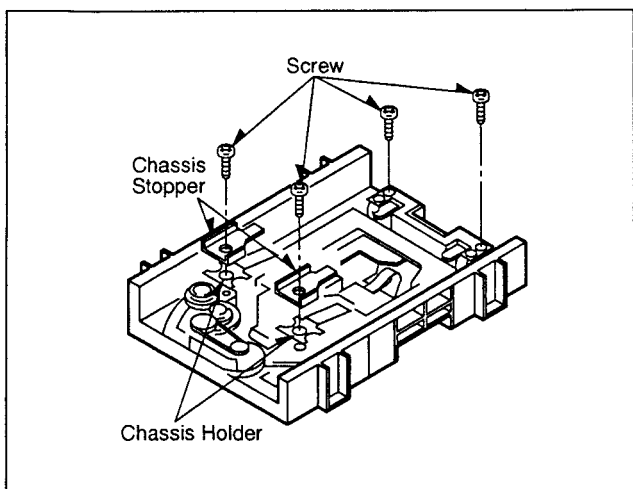


Fig. 2-4-1 Removal of the Traverse Unit

2. The Traverse Unit is connected to the Rotary Cam, slowly lift the back side (the side of Rotary Support Plate Springs) and remove.

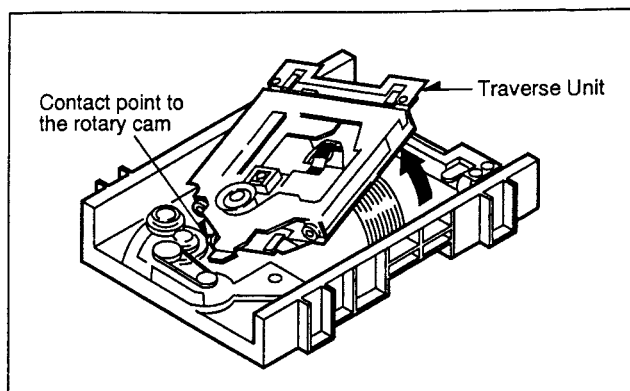


Fig. 2-4-2 Contact Point of the Traverse Unit and the Rotary Cam

2-5. Removing the Loading Section Parts

These parts can be removed even without taking out the Traverse Unit. Each gear and belt can be removed as shown in the figure below.

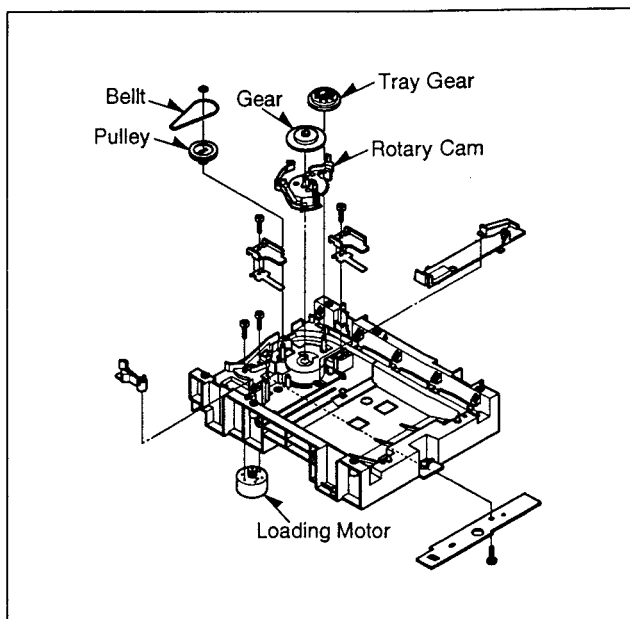


Fig. 2-5 Removal of the Loading Mechanism

2-6. Assembling the Loading Section Parts

Although the phases do not need to be aligned during assembly, please follow the order for assembly.

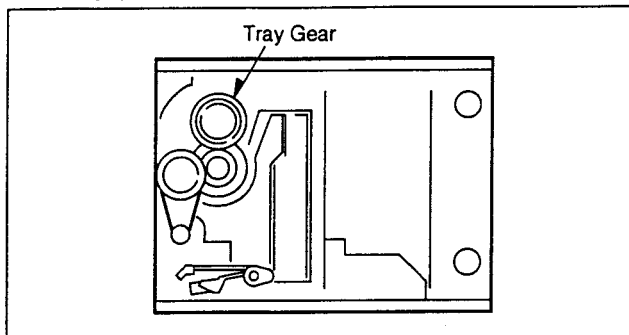


Fig. 2-6 Assembly of the Loading Mechanism

2-7. Assembling the Traverse Unit

1. Pull the Flexible Cable, which sticks out from the Traverse Unit, out from the inner side of the Loading Base.

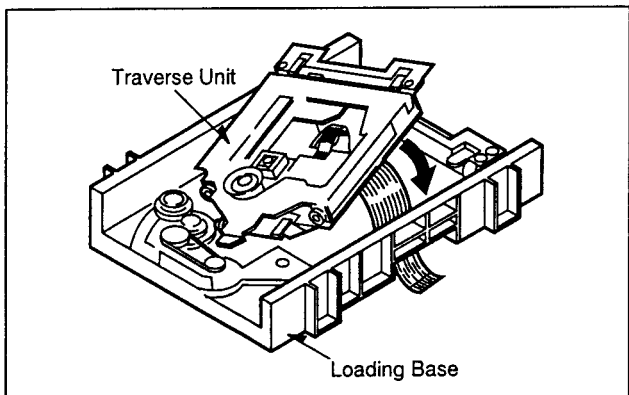


Fig. 2-7-1 Assembly of the Traverse Unit

2. Rotate the Tray Gear counterclockwise, then insert the end of the Traverse Unit into the groove in the Rotary Cam, and tighten the 4 screws.

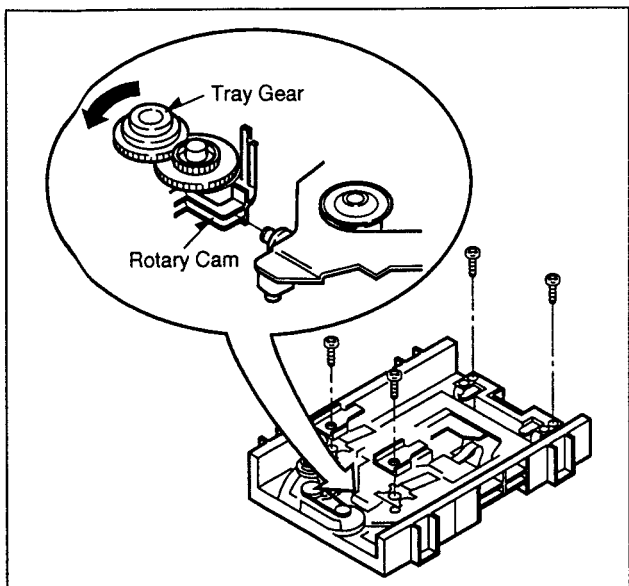


Fig. 2-7-2 Setting of the Traverse Unit and the Rotary Cam

2-8. Attaching the Loading Tray

1. Rotate the Tray Gear counterclockwise and verify that the Traverse Unit is at the lowest position.
2. Push the portion (A) of Rotary Cam in the direction of arrow.
3. Confirm that the Pawl of Rotary Cam is locked.

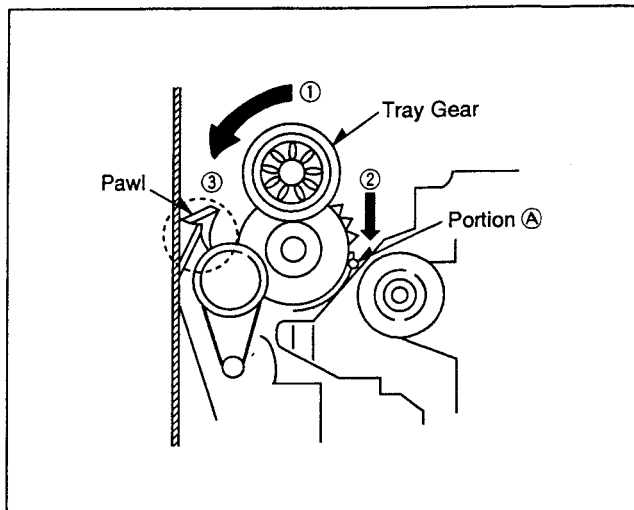


Fig. 2-8-1 Setting of the Tray

2. There is no phase alignment when inserting the tray. Insert the tray straight into the Loading Base.

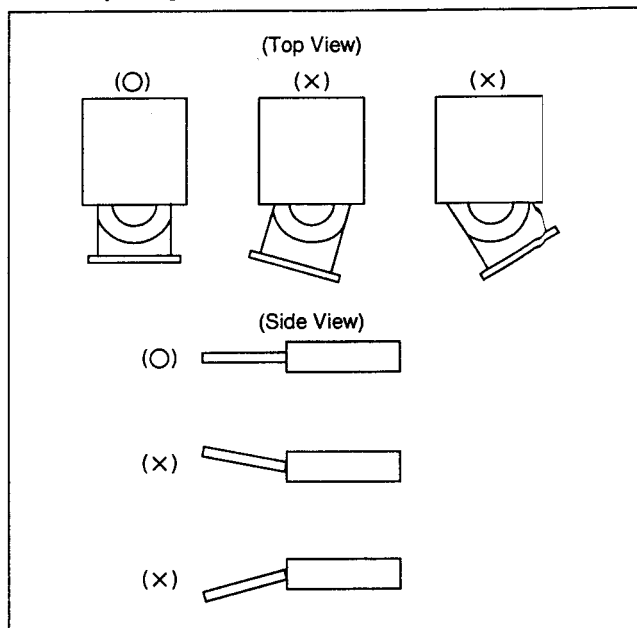


Fig. 2-8-2 Normal Setting of the Tray

2-9. Attaching the Clamp Support Plate

1. Attach the Clamp Support Plate and assemble the Loading Base.

3. Replacing the Main Parts of the Traverse Unit

This section describes the replacement of the main parts in the Traverse Unit, including the Laser Pick-Up, the Disc Motor, the Traverse Motor Unit.

Work should be performed after removing the Traverse Unit.

To Prevent Damage to the Laser Diode

Static electricity destroys the Laser Diode. Always take countermeasures to prevent static electricity damage when performing repairs around the Laser Pick-Up.

1. Do not touch the area around the Laser Pick-Up or the Actuator.
2. Do not check the Laser Diode with a tester or other device (the Laser Diode can be broken quite easily).
3. Short-Circuit the Laser Pick-Up
Solder the Land in the center of the flexible cable of the Laser Pick-Up. This will short-circuit the Laser Diode and help prevent damage from static electricity.

Caution:

Do not forget to remove the soldered Laser Diode short-circuit after finishing repair, and leave the circuit open.

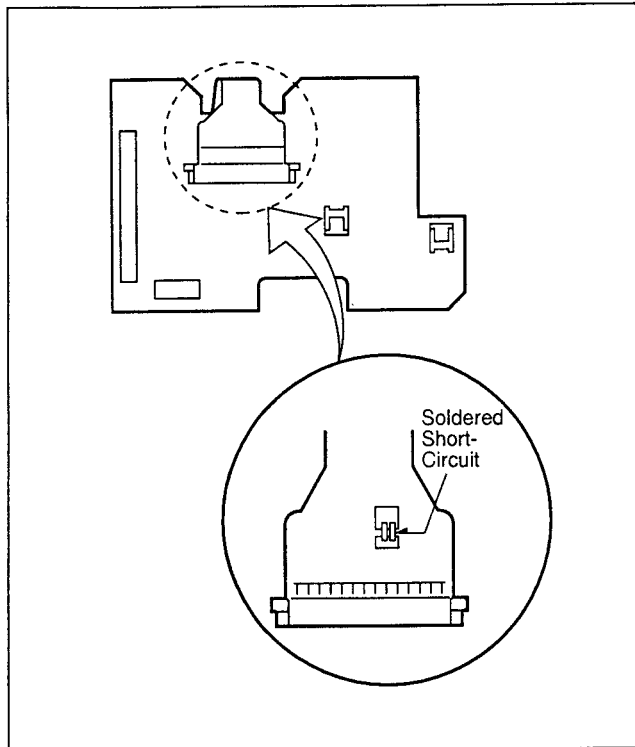


Fig. 3-A Short Circuit of the Laser Diode

Preparation Prior to Replacing the Parts

Always perform this work after taking action to prevent damage to the Laser Diode, regardless of whether or not the Laser Pick-Up is in working order.

1. Remove 2 connectors and 3 flexible cables on the Relay Board. FP0001–FP0003, FP0004 and FP0005.

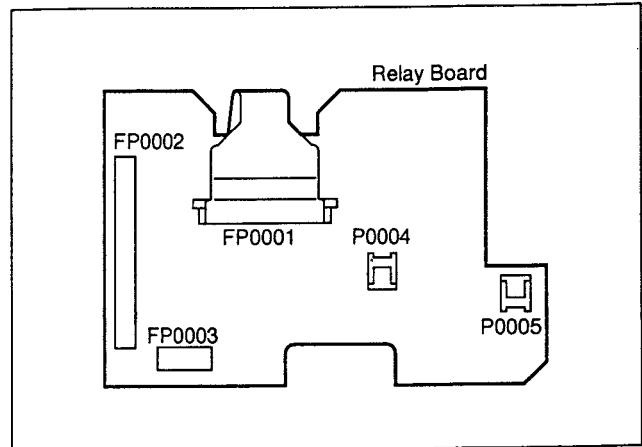


Fig. 3-B Relay Board

2. Remove the 3 screws, so that, traverse Unit can be separated into two sections.

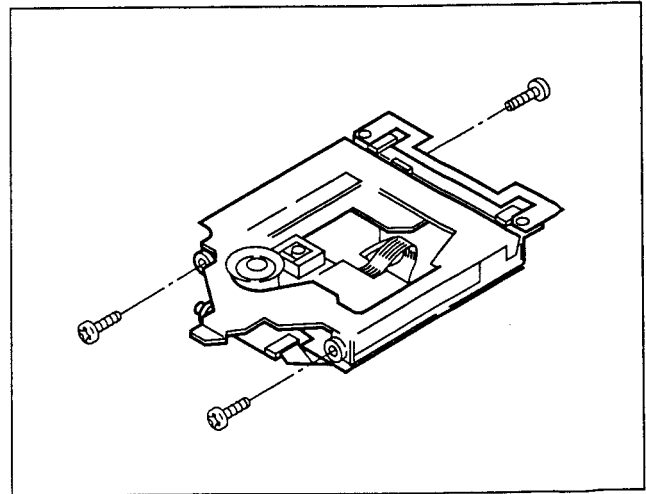


Fig. 3-C Disassembly of the Traverse Unit

3-1. Replacing the Laser Pick-Up

1. Remove the 2 screws.
2. Remove the Laser Pick-Up.

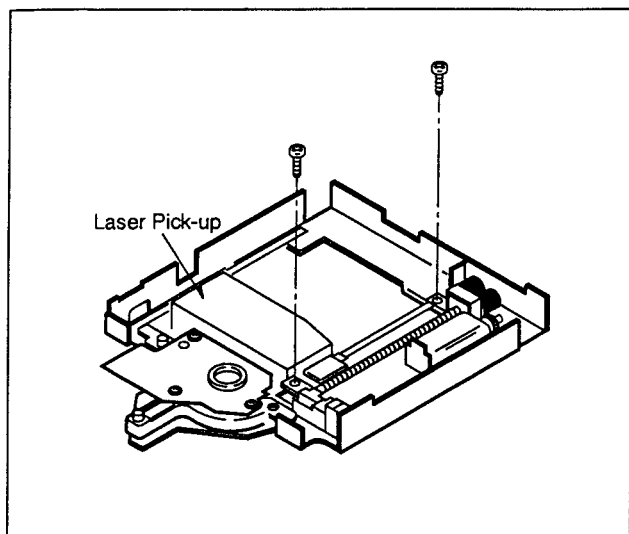


Fig. 3-1 Replacement of the Laser Pick-up

3-2. Replacing the Traverse Motor Unit

1. After the Laser Pick-Up has been removed, remove the 2 screws.
2. Remove the Traverse Motor Unit.

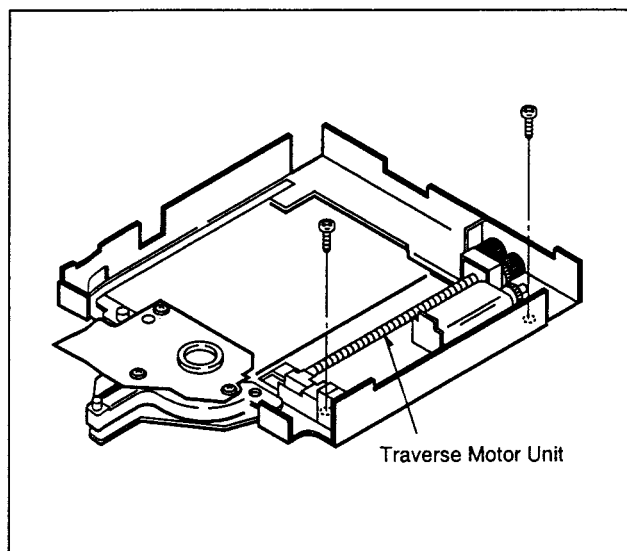


Fig. 3-2 Replacement of the Traverse Motor Unit

3-3. Replacing the Disc Motor

1. This disc motor can be removed after the Traverse Unit has been separated into two sections.
2. Remove the 2 screws A.
3. Remove the 2 screws B using an Hex. wrench.

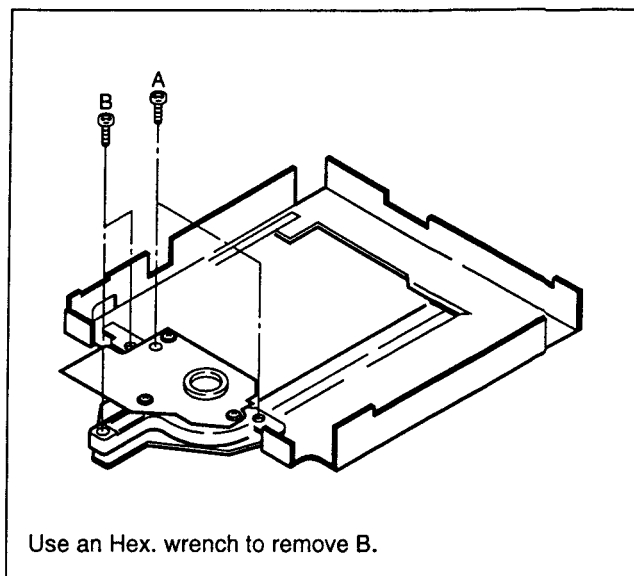


Fig. 3-3 Replacement of the Disc Motor

Note: It is not necessary to remove the Laser Pick-Up for replacement of the Disc Motor.

3-4. Disc Motor Assembly/Tentative Tilt Adjustment

1. For the Disc Motor assembling, install the 2 Screw B (adjustment screw) after firmly tightening the 2 Screws A. (Refer to the figure 3-3.)
2. Use the 2 Screws B to temporarily set the Disc Motor so that it rests parallel to the Base.

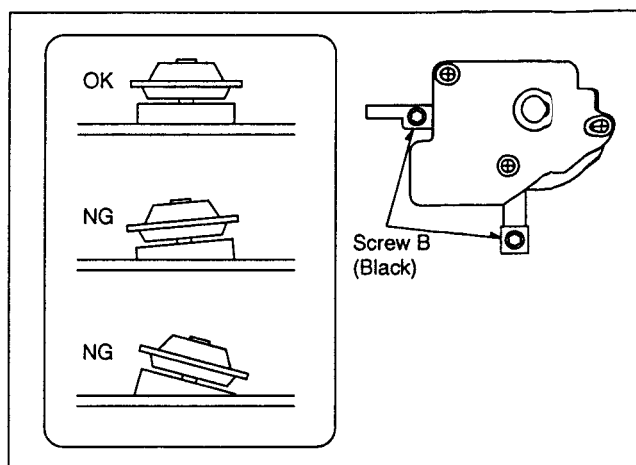


Fig. 3-4 Disc Motor Assembling

3. For final adjustment, proceed the Tilt Adjustment of Disc Motor (Page 2-12).

3-5. Others

1. Reassemble the Laser Pick-Up and the Traverse Motor Unit in precisely the reverse order as they were disassembled.
2. After reassemble the Laser Pick-up and the Traverse Motor Unit, perform the Tilt Adjustment of Disc Motor (Page 2-12).

4. Printed Circuit Board Location and Wiring Connection Diagram

4-1. Printed Wiring Board Location

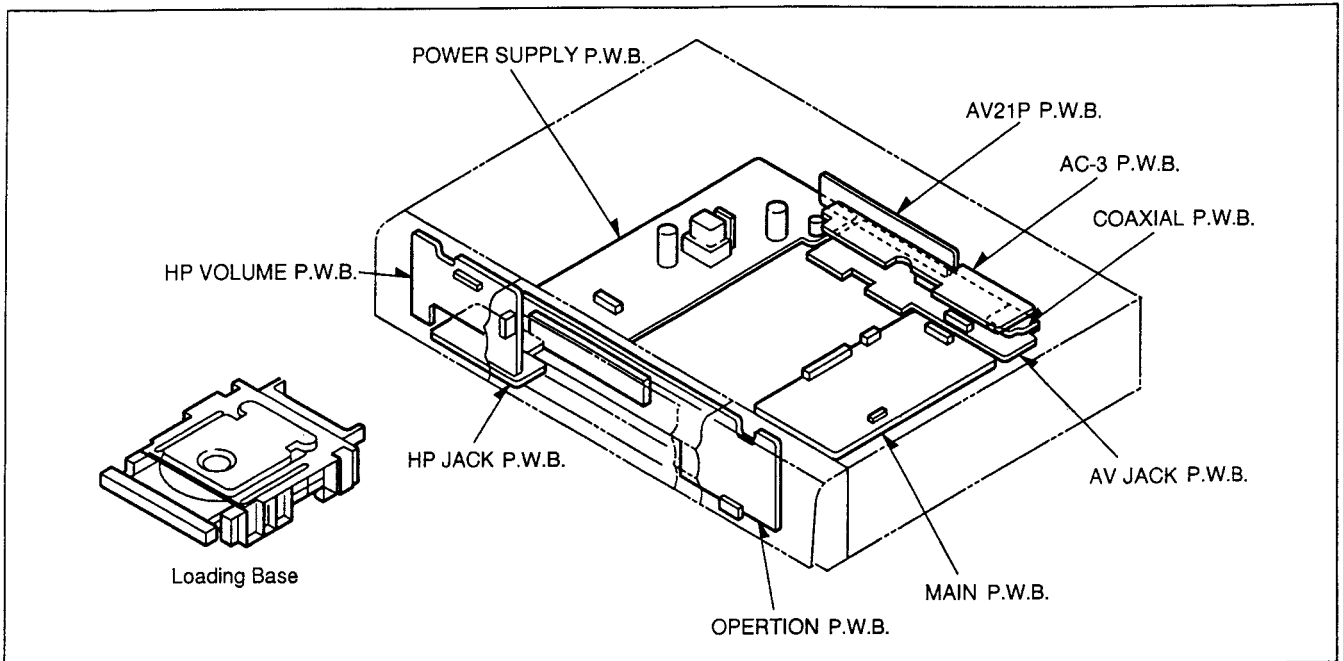
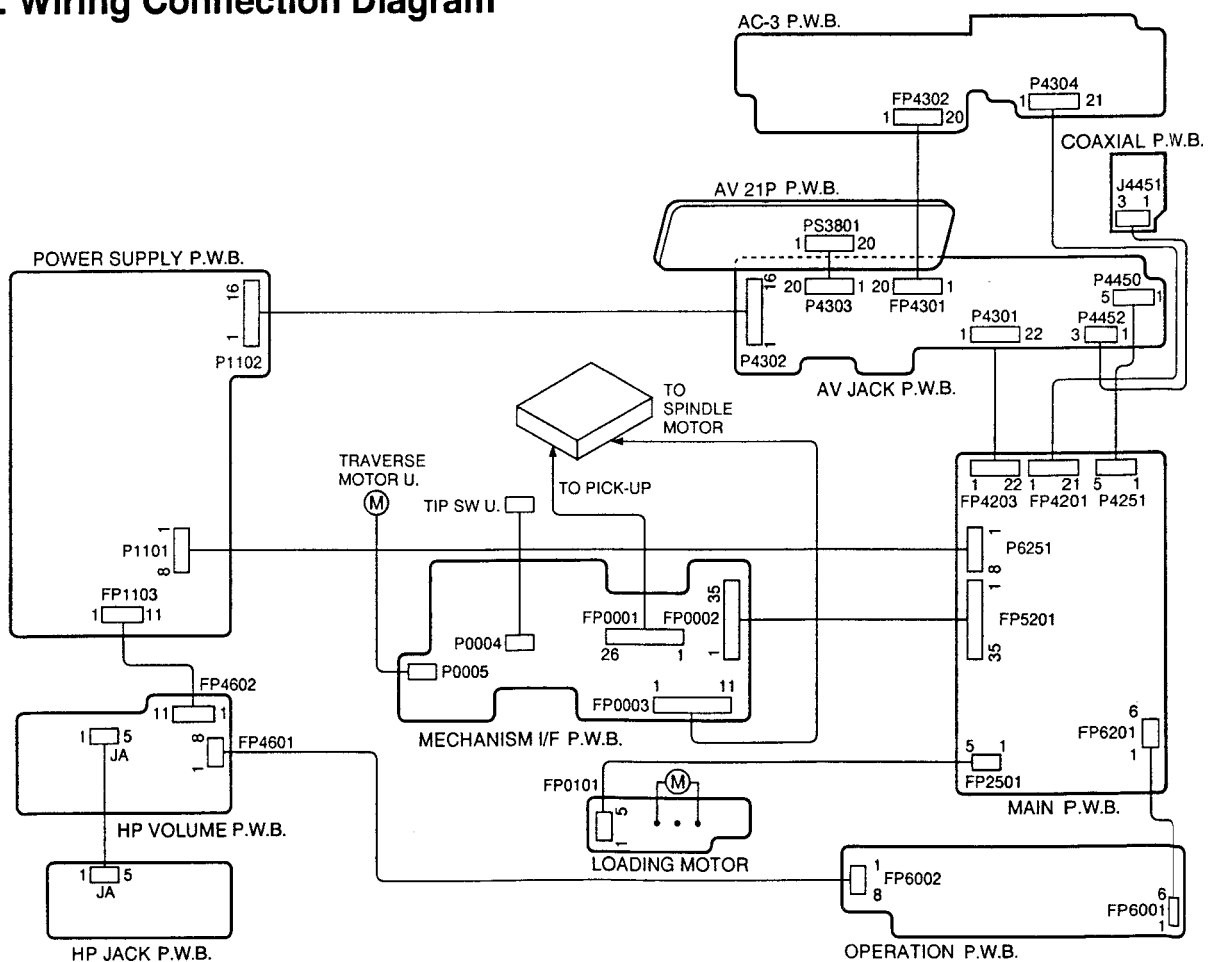


Fig. 4-1 Printed Circuit Board Location

4-2. Wiring Connection Diagram



5. Disassembly and Check Method of Printed Circuit Board Assembly (P.W.B.)

5-1. Replacing the Main P.W.B.

1. Remove 4 screws and check the Main P.W.B.

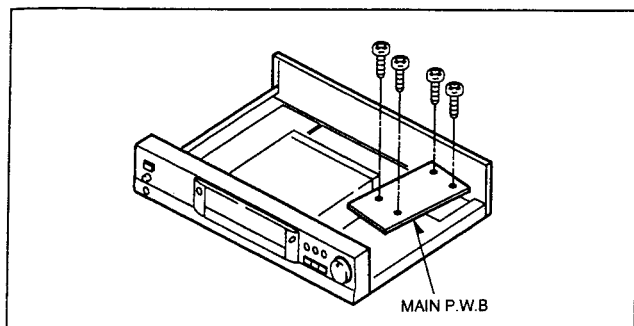


Fig. 5-1 Main P.W.B.

When the Main P.W.B. has been replaced, perform the Initialization.

5-2. Check Method of AV Jack C.B.A., AV21P P.W.B., AC-3 P.W.B., and COAXIAL P.W.B.

1. Remove 12 screws on the Rear Panel.

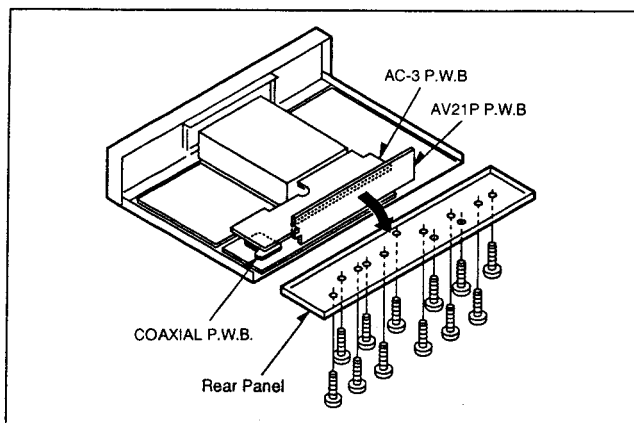


Fig. 5-2-1 Removal of the Rear Panel

2. Remove the AC-3 P.W.B. from the locking card spacer.
3. Remove 3 screws on the AV Jack P.W.B.
Disconnect the Cable connected to the Power Supply P.W.B..

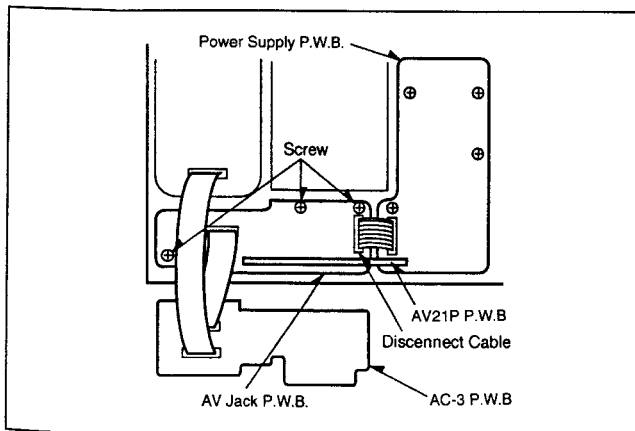


Fig. 5-2-2 AV Jack P.W.B.

5-3. Check Method of Power Supply P.W.B.

1. Remove 2 screws of the AC inlet on the Rear Panel.

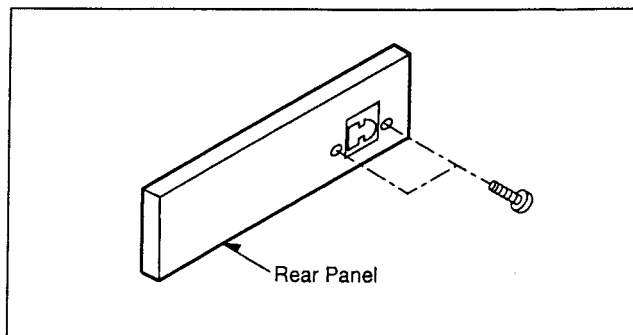


Fig. 5-3-1 AC INLET

2. Remove 4 screws on the Power Supply P.W.B.
Disconnect the Cable connected to the AV Jack P.W.B.

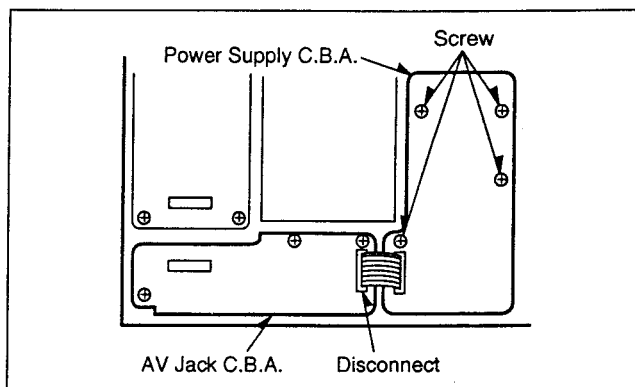


Fig. 5-3-2 Power Supply P.W.B.

5-4. Check Method of Operation P.W.B.

1. Refer to the disassembly procedure (Item 1-2.), and remove the Front Panel.
2. Check the Operation P.W.B. as the figure shown below.

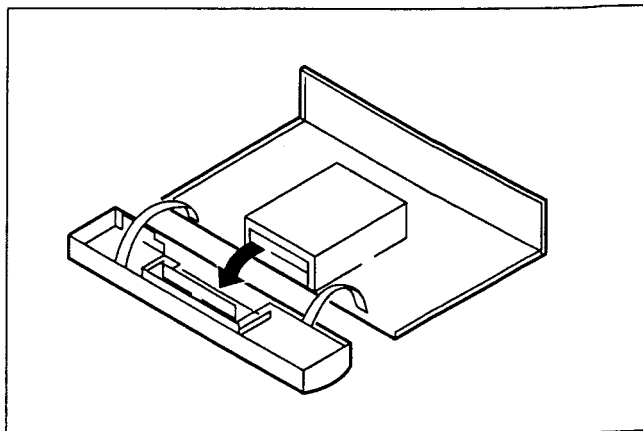


Fig. 5-4 Operation P.W.B.

When the Operation P.W.B. has been replaced, perform the Initialization.

6. Electrical Adjustment Procedures

Equipment Necessary for Adjustment

1. Measuring Equipments
General measuring equipments including an oscilloscope.
2. DVD Test Disc
Part No. DVDT-S01 (Single Layer)
3. Video-CD/CD-DA Test Disc
Part No. PVCD_K06
4. Multi-system TV Monitor
5. Others
Conventional tools, Hex. wrench 2.0 mm, etc.

6-1. Tilt Adjustment of Disc Motor

After replacing parts in the Traverse Unit, it is necessary to adjust the Tilt Adjustment of Disc motor from bottom side. Please follow the following procedures for adjusting:

Caution:

1. Optical adjustment inside the laser pick-up is not possible.
2. Prior to adjusting, take countermeasures to prevent damage from static electricity.

When the following parts have been replaced, disc motor adjustment will be required.

1. The disc motor.
2. The laser pick-up.
3. The Traverse motor unit.
4. The parts around the laser pick-up (rail, etc.).

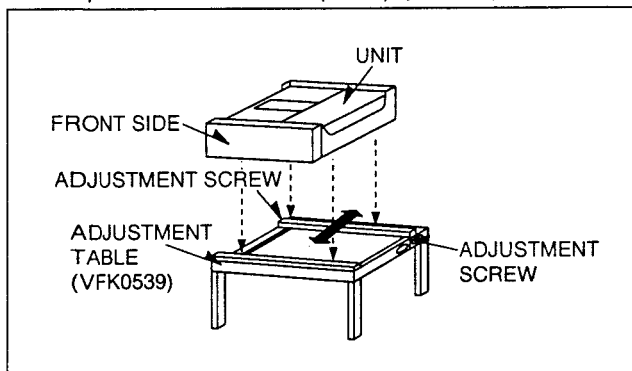


Fig. 6-1-1 Adjustment Table

Use a hex. wrench (2.0 mm) to adjust from the hole of the bottom plate.

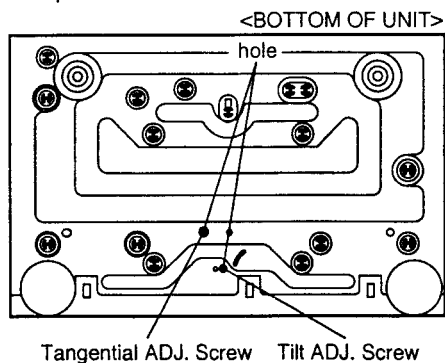


Fig. 6-1-2 Adjustment Hole of the Bottom Plate

Measurement Point	Adjustment Point	Mode	Test Disc
TL5206 GND: Chassis	Tilt adjustment screw	Play title 8, Pause	DVDT-S01
Measuring Equipment		Adjustment Value	
Oscilloscope DC 500mV/div., 20 msec./div.		Adjust until the bottom section of the waveform becomes flat and the DC components are minimum.	

Table 6-1 Tilt Adjustment

1. Play back the DVD test disc and then place the unit in play mode with title 8, then push the Pause button.
2. At first, Adjust Tangential Adjustment Screw then adjust Tilt Adjustment Screw with the Hex Wrench (2.0 mm) from bottom side.
Repeat 2 to 3 times alternately until the waveform at TL5206 indicated below is obtained.
Final adjustment should be Tilt Adjustment.
 - The valley sections of the waveform should be as flat as possible.
 - The total DC level should be obtained minimized as much as possible.
 - The waveform whisker sections will not disappear.

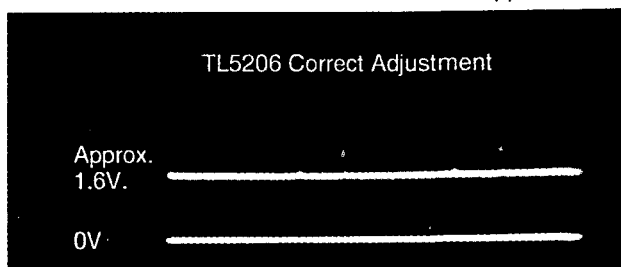


Fig. 6-1-3 Correct Tilt Adjustment Waveform

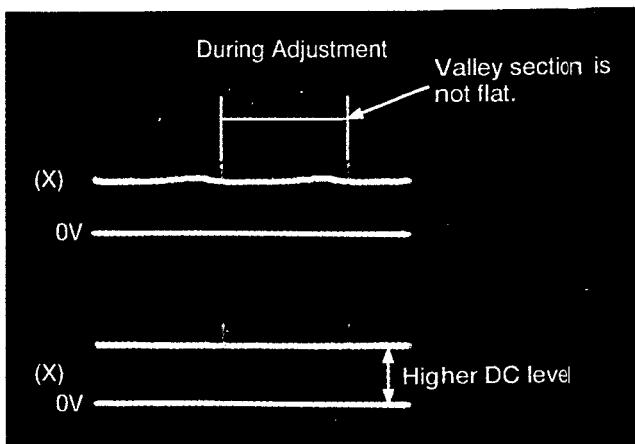


Fig. 6-1-4 Tilt Adjustment Waveform During Adjusting

After Adjusting Check the following

1. After adjusting by the DVD test disc, play a video CD or CD-DA and check that there is no abnormal operation.

The following adjustment is electrical adjustments. These adjustments are to be performed after replacing the printed wiring boards.

6-2. Video Output (Luminance Signal) Adjustment

Measurement Point	Adjustment Point	Mode	Disc
Video Output Pin Terminal GND: Chassis	VR3232	Playback Title 12 (Colour Bar)	DVDT-S01
Measuring Device		Adjustment Value	
Oscilloscope 500 mV/div, 10 μ s/div		1000 \pm 20 mV p-p	

For compatibility of video signal output.

1. Connect the monitor TV to the video output terminal and terminate at 75 Ohms.
2. Play back the color bar part Title 12 of the DVD Test Disc title.
3. Adjust the VR3232 so that the luminance signal output is as shown below.
4. Confirm the signal on the AV Jack board side.

Adjustment Value = 1000 \pm 20 mV p-p

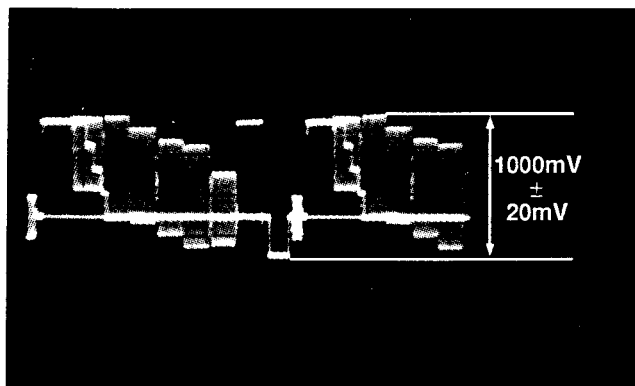


Fig. 6-2 Luminance Signal Output

6-3. Video Output (Chrominance Signal) Adjustment

Measurement Point	Adjustment Point	Mode	Disc
Video Output Pin Terminal GND: Chassis	VR3233	Playback Title 12 (Colour Bar)	DVDT-S01
Measuring Device		Adjustment Value	
Oscilloscope 500 mV/div, 10 μ s/div		657 \pm 13 mV p-p	

For compatibility of video signal output.

1. Connect the monitor TV to the video output terminal and terminate at 75 Ohms.
2. Play back the color bar part Title 12 of the DVD Test Disc title.
3. Adjust the VR3233 so that the chrominance (CYAN) signal output is as shown below.
4. Confirm the signal on the AV Jack board side.

Adjustment Value = 657 \pm 13 mV p-p

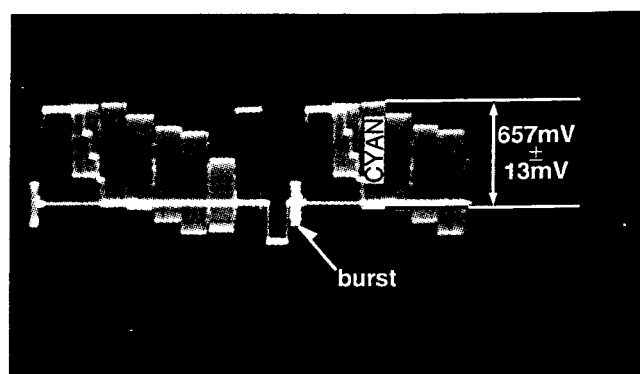


Fig. 6-3 Chrominance Signal Output

6-4. Video Output (Green Signal) Adjustment

Measurement Point	Adjustment Point	Mode	Disc
AV1-19PIN AV1-11PIN	VR3231	Playback Title 10 (Colour Bar)	DVDT-S01
Measuring Device		Adjustment Value	
Oscilloscope 500 mV/div, 10 μ s/div		700 \pm 14 mV p-p	

Adjustment Value = 700 \pm 14 mV p-p

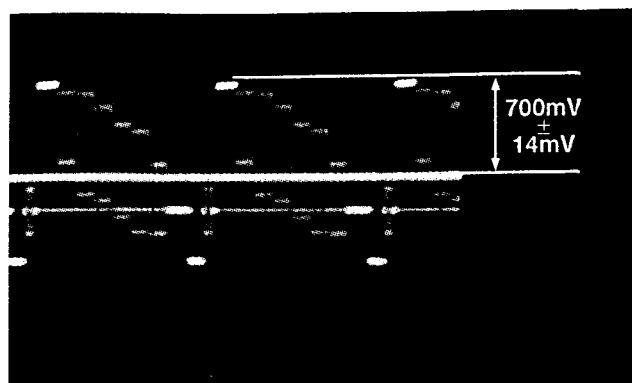


Fig. 6-4-1 Green Signal Output

<<NOTE>> AV1-11PIN and AV-19PIN should be 75 Ω terminate.

For compatibility of video signal output.

1. Connect the monitor TV to the video output terminal and terminate at 75 Ohms.
2. Connect the oscilloscope to AV1-11Pin for CH-1 and AV-19Pin for CH-2. (Trigger)
3. Play back the color bar part Title 10 of the DVD Test Disc title.
4. Adjust the VR3231 so that the green signal output is as shown below.
5. Confirm the signal on the AV21P board side.

Test Points & Controls Location

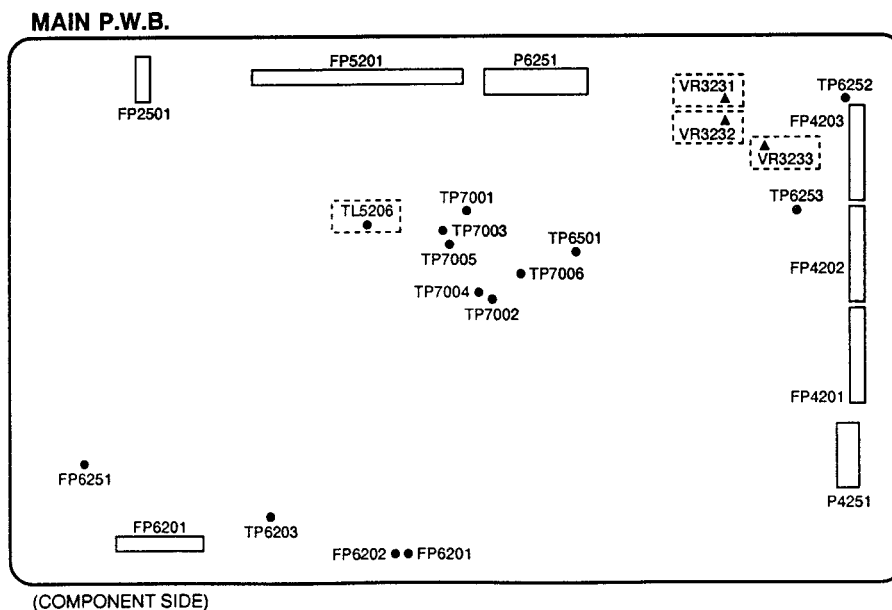
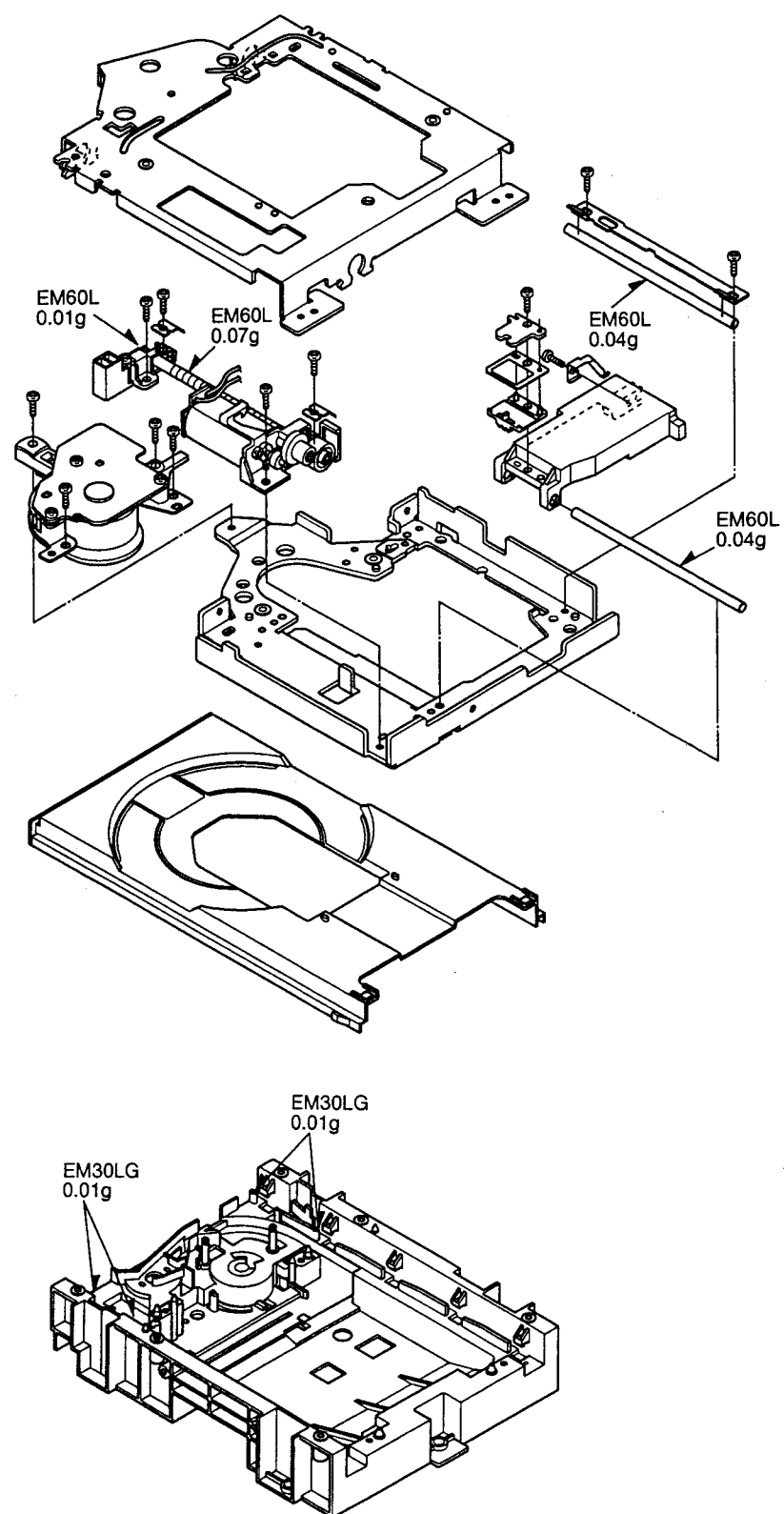


Fig. 6-4-2 Test Points & Controls Location

7. Lubrication Information



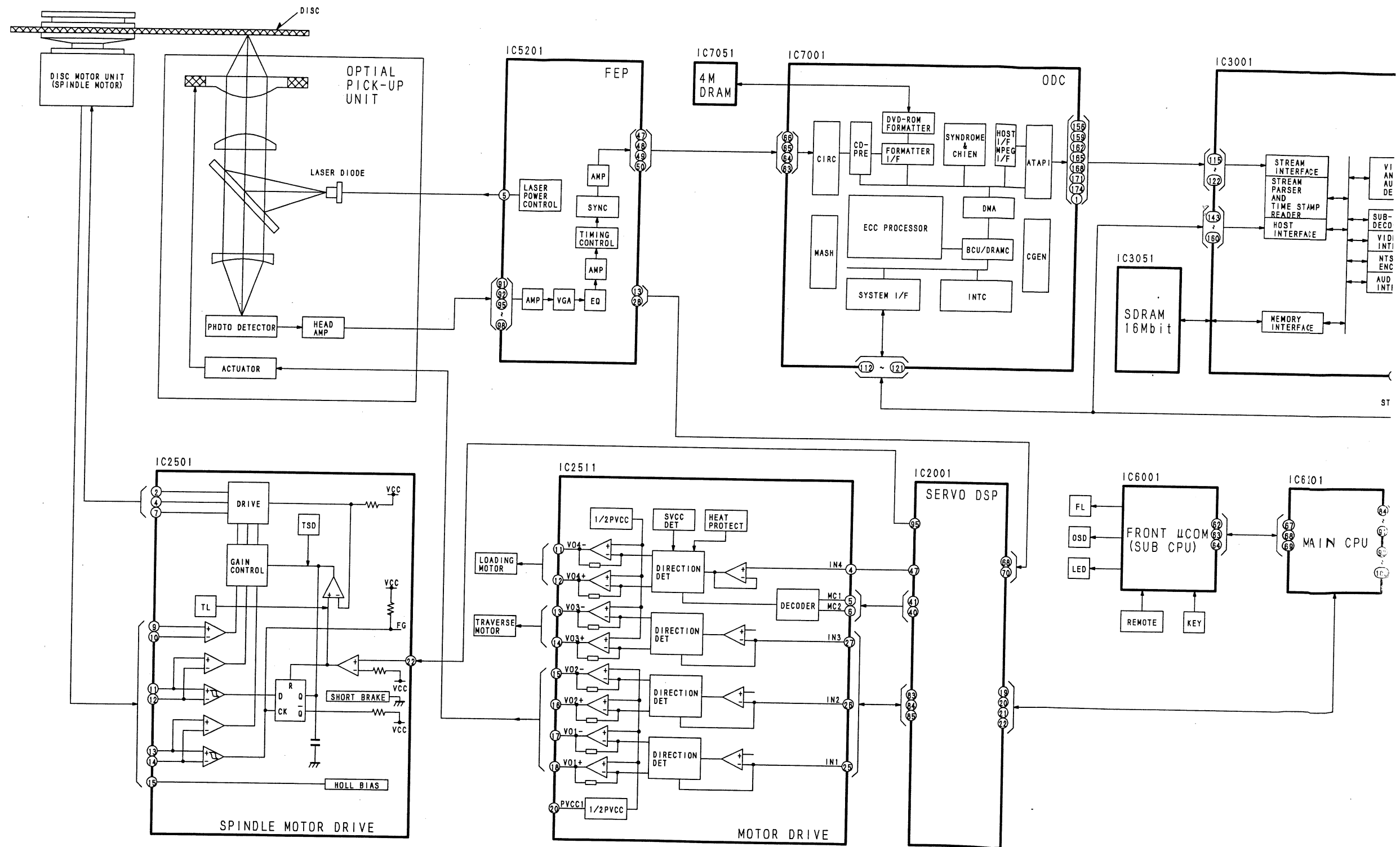
SECTION 2 BLOCK DIAGRAM/SCHEMATIC DIAGRAM/ P.W. BOARD DIAGRAM

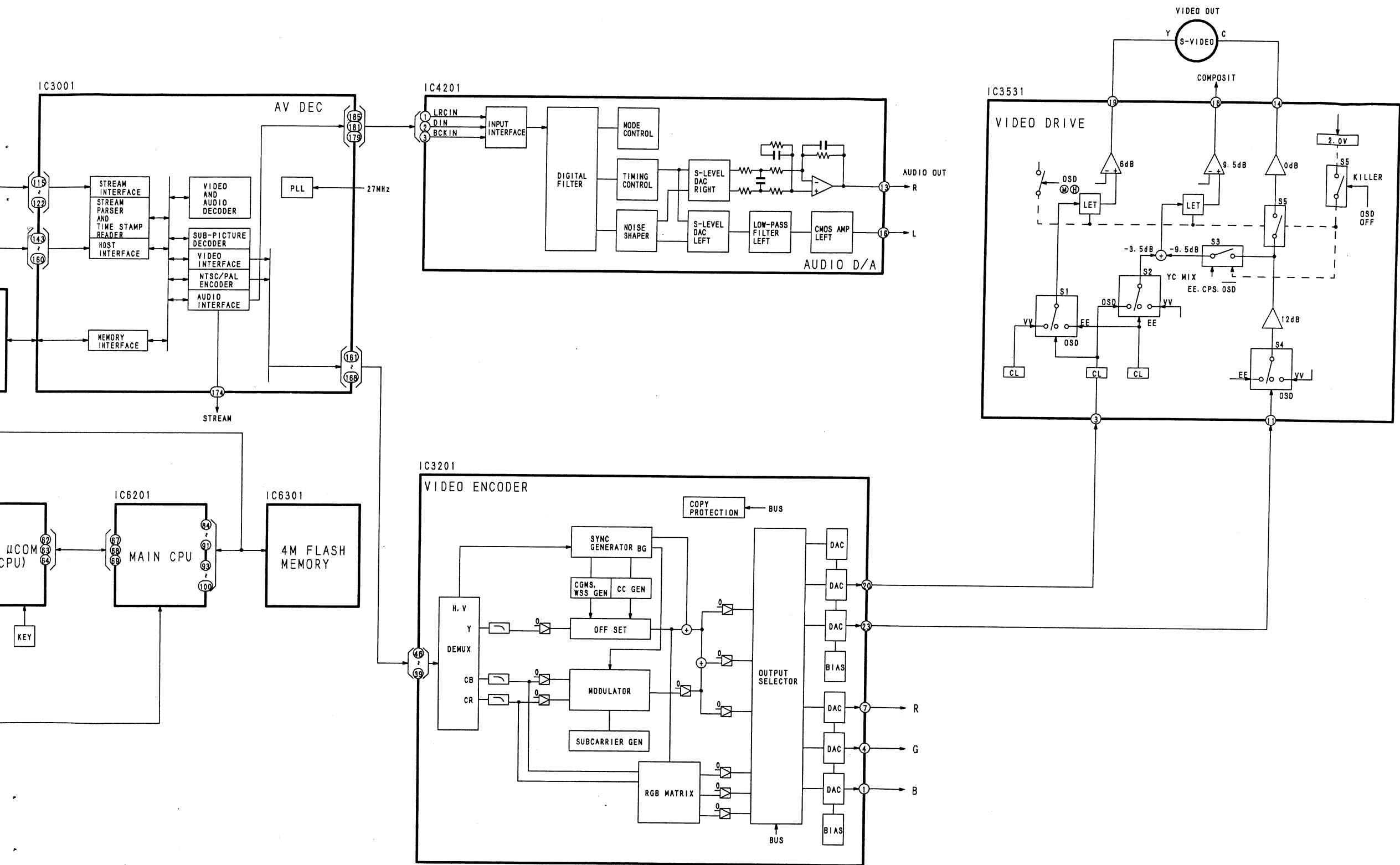
2-1. ABBREVIATIONS

INITIAL/LOGO	ABBREVIATIONS	INITIAL/LOGO	ABBREVIATIONS
A	A0~UP ACLK AD0~UP ADATA ALE AMUTE AREQ ARF ASI ASO ASYN	DSC DSL DVD	DIGITAL SERVO CONTROLLER DATA SLICE LOOP FILTER DIGITAL VIDEO DISC
		E EC ECR ENCSEL ETMCLK ETSCLK	ERROR TORQUE CONTROL ERROR TORQUE CONTROL REFERENCE ENCODER SELECT EXTERNAL M CLOCK (81MHz/40.5MHz) EXTERNAL S CLOCK (54MHz)
B	BCK BCKIN BDO BLKCK BOTTOM BYP BYTCK	F FBAL FCLK FE FFI FEO FG FSC FSCK	FOCUS BALANCE FRAME CLOCK FOCUS ERROR FOCUS ERROR AMP INVERTED INPUT FOCUS ERROR AMP OUTPUT FREQUENCY GENERATOR FREQUENCY SUB CARRIER FS (384 OVER SAMPLING) CLOCK
		G GND	COMMON GROUNDING (EARTH)
C	CAV CBDO CD CDSCK CDSRDATA CDRF CDV CHNDATA CKSL CLV COFTR CPA CPCS CPDT CPUADR CPUADT CPUIRQ CPRD CPWR CS CSYNCIN CSYNOUT	H HA0~UP HD0~UP HINT HRXW	HOST ADDRESS HOST DATA HOST INTERRUPT HOST READ/WRITE
		I IECOUT IPFLAG IREF ISEL	IEC958 FORMAT DATA OUTPUT INTERPOLATION FLAG I (CURRENT) REFERENCE INTERFACE MODE SELECT
D	DACCK DEEMP DEMPH DIG0~UP DIN DMSRCK DMUTE DO DOUT0~UP DRF DRPOUT DREQ DRESP	L LDON LPC LRCK	LASER DIODE CONTROL LASER POWER CONTROL L CH/R CH DISTINCTION CLOCK
		M MA0~UP MCK MCKI MCLK MDATA MDQ0~UP MDQM MLD MPEG	MEMORY ADDRESS MEMORY CLOCK MEMORY CLOCK INPUT MEMORY SERIAL COMMAND CLOCK MEMORY SERIAL COMMAND DATA MEMORY DATA INPUT/OUTPUT MEMORY DATA I/O MASK MEMORY SERIAL COMMAND LOAD MOTION PICTURE IMAGE CODING EXPERT GROUP
		O ODC OFTR OSCI OSCO OSD	OPTICAL DISC CONTROLLER OFF TRACKING OSCILLATOR INPUT OSCILLATOR OUTPUT ON SCREEN DISPLAY
		P P1~UP PCD PCK	PORT CD TRACKING PHASE DIFFERENCE PLL CLOCK

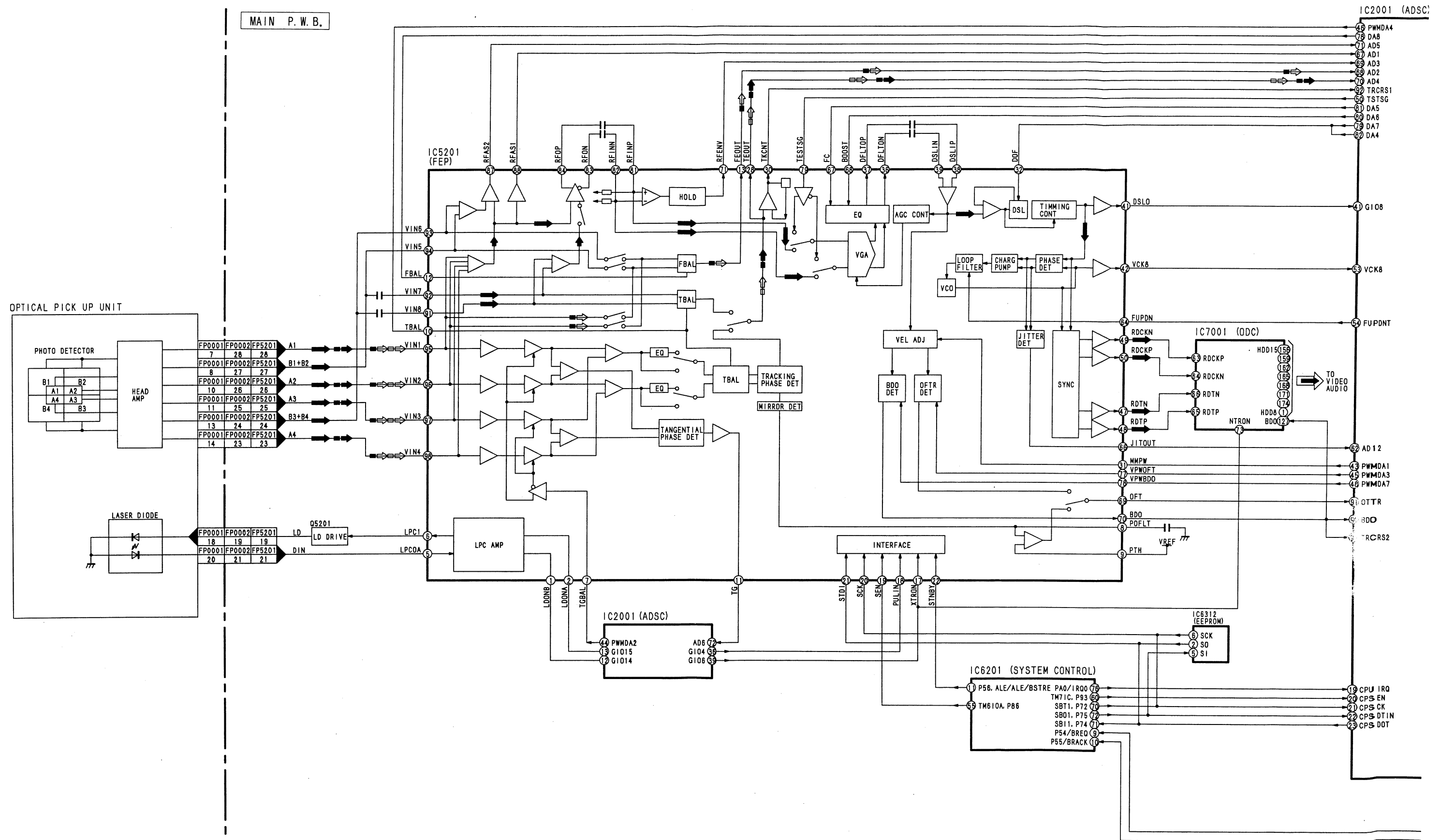
INITIAL/LOGO	ABBREVIATIONS	INITIAL/LOGO	ABBREVIATIONS
	PDVD PEAK PLLCLK PLLOK PWMCTL PWMDA PWMOA, B		DVD TRACKING PHASE DIFFERENCE CAP. FOR PEAK HOLD CHANNEL PLL CLOCK PLL LOCK PWM OUTPUT CONTROL PULSE WAVE MOTOR DRIVE A PULSE WAVE MOTOR OUT A, B
		V VBLANK VCC VCDCONT VDD VFB VREF VSS	TRACKING ON TRAVERSE SERVO ON V BLANKING COLLECTOR POWER SUPPLY VOLTAGE VIDEO CD CONTROL (TRACKING BALANCE) DRAIN POWER SUPPLY VOLTAGE VIDEO FEED BACK VOLTAGE REFERENCE SOURCE POWER SUPPLY VOLTAGE
R	RE RFENV RFO RS RSEL RST RSV	W WAIT WDCK WEH WSR	BUS CYCLE WAIT WORD CLOCK WRITE ENABLE HIGH WORD SELECT RECEIVER
S	SBI0, 1 SBO0 SBT0, 1 SCK SCKR SCL SCLK SDA SEG0~UP SELCLK SEN SIN1, 2 SOUT1, 2 SPDI SPDO SPEN SPRCLK SPWCLK SQCK SQCX SRDATA SRMADR SRMDT0~7 SS STAT STCLK STD0~UP STENABLE STSEL STVALID SUBC SBCK SUBQ SYSCLK	X X XALE XAREQ XCDROM XCS XCSYNC XDS XHSYNCO XHINT XI XINT XMW XO XRE XSRMCE XSRMOE XSRMWE XVCS XVDS XVSYNCO	X'TAL X ADDRESS LATCH ENABLE X AUDIO DATA REQUEST X CD ROM CHIP SELECT X CHIP SELECT X COMPOSITE SYNC X DATA STROBE X HORIZONTAL SYNC OUTPUT XH INTERRUPT REQUEST X'TAL OSCILLATOR INPUT X INTERRUPT X MEMORY WRITE ENABLE X'TAL OSCILLATOR OUTPUT X READ ENABLE X SRAM CHIP ENABLE X SRAM OUTPUT ENABLE X SRAM WRITE ENABLE X V-DEC CHIP SELECT X V-DEC CONTROL BUS STROBE X VERTICAL SYNC OUTPUT
T	TE TIBAL TID TIN TIP TIS TPSN TPSO TPSP TRCRS		TRACKING ERROR BALANCE CONTROL BALANCE OUTPUT 1 BALANCE INPUT BALANCE INPUT BALANCE OUTPUT 2 OP AMP INPUT OP AMP OUTPUT OP AMP INVERTED INPUT TRACK CROSS SIGNAL

2-2. OVERALL BLOCK DIAGRAM

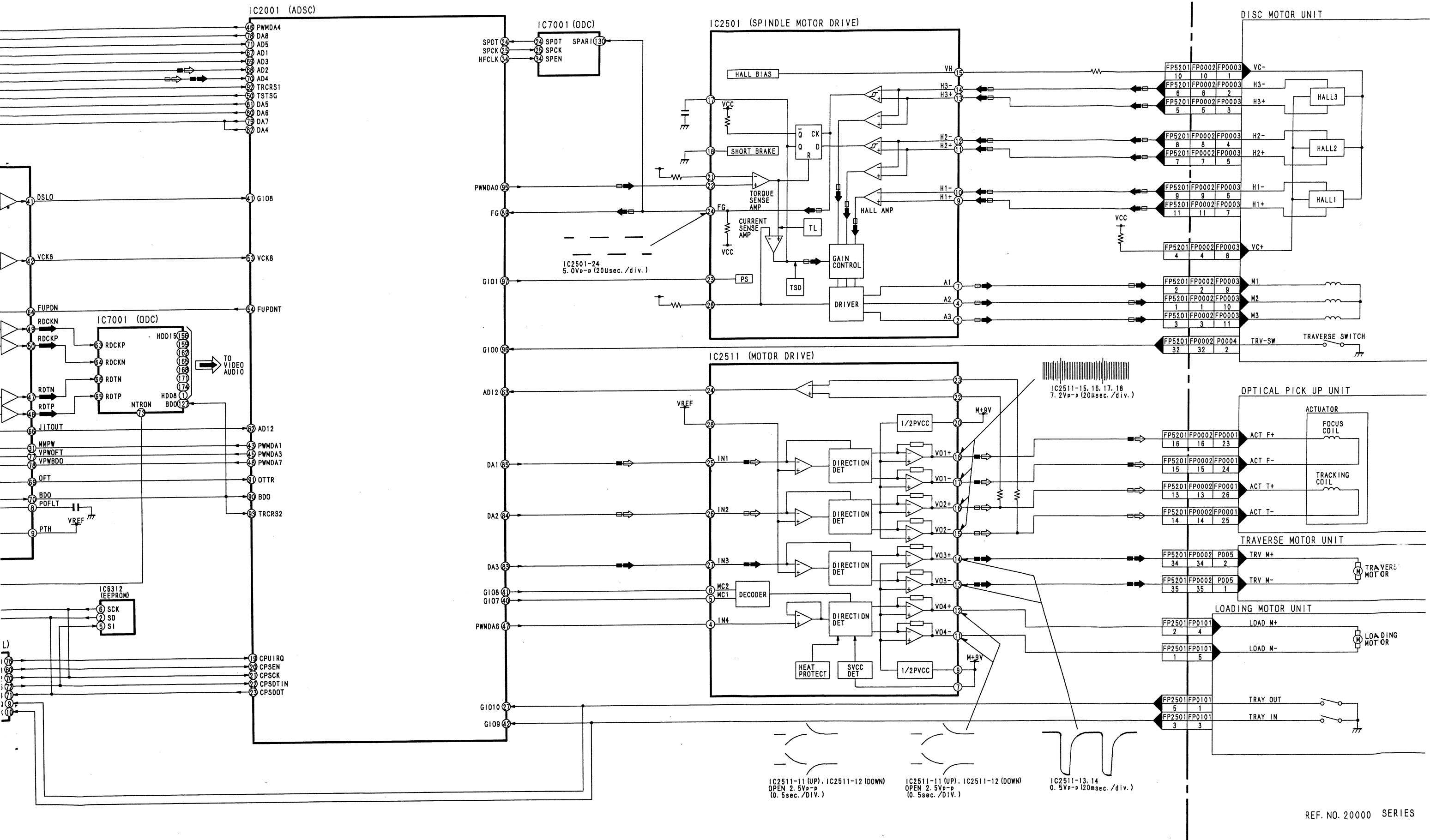




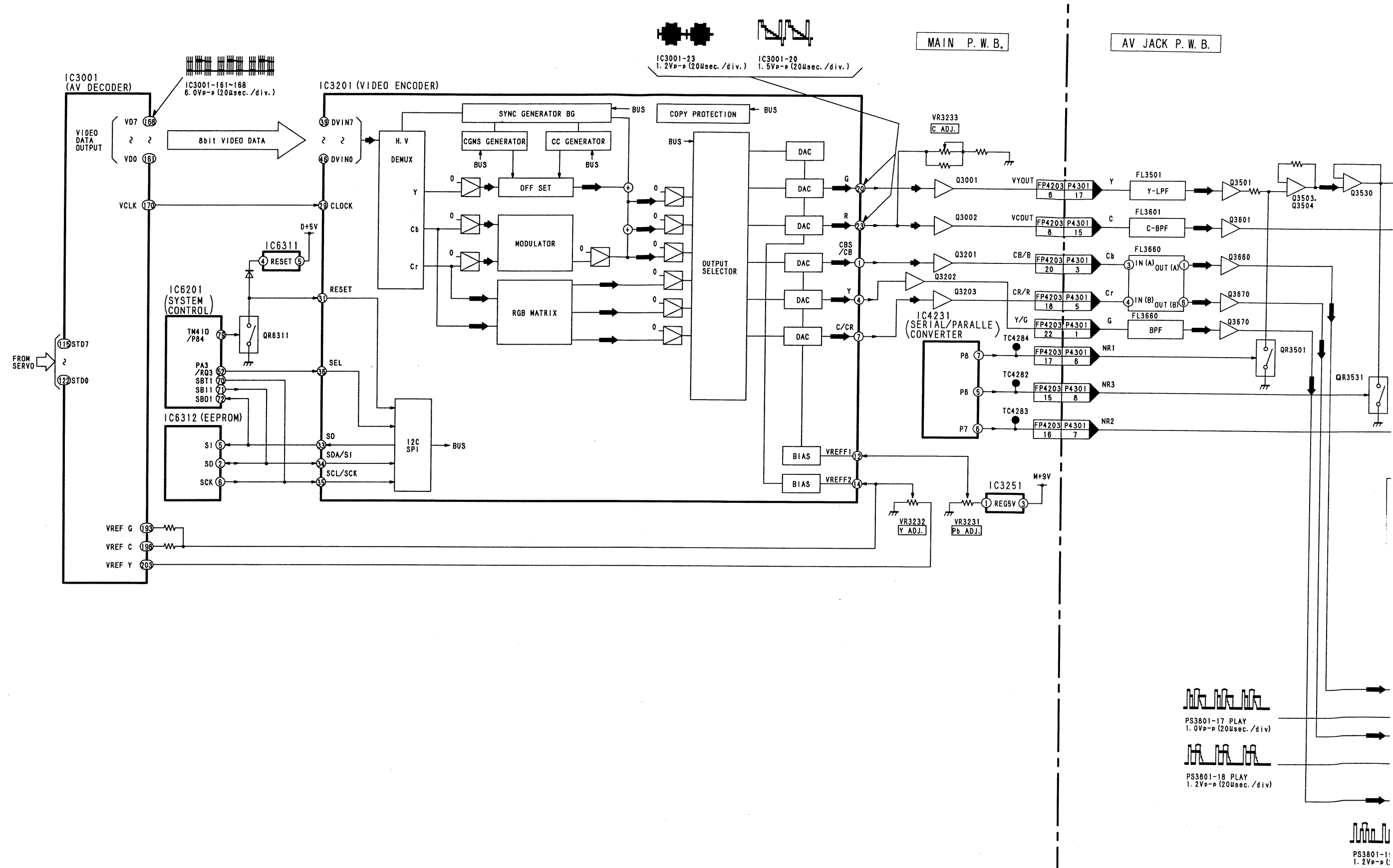
2-3. SERVO BLOCK DIAGRAM

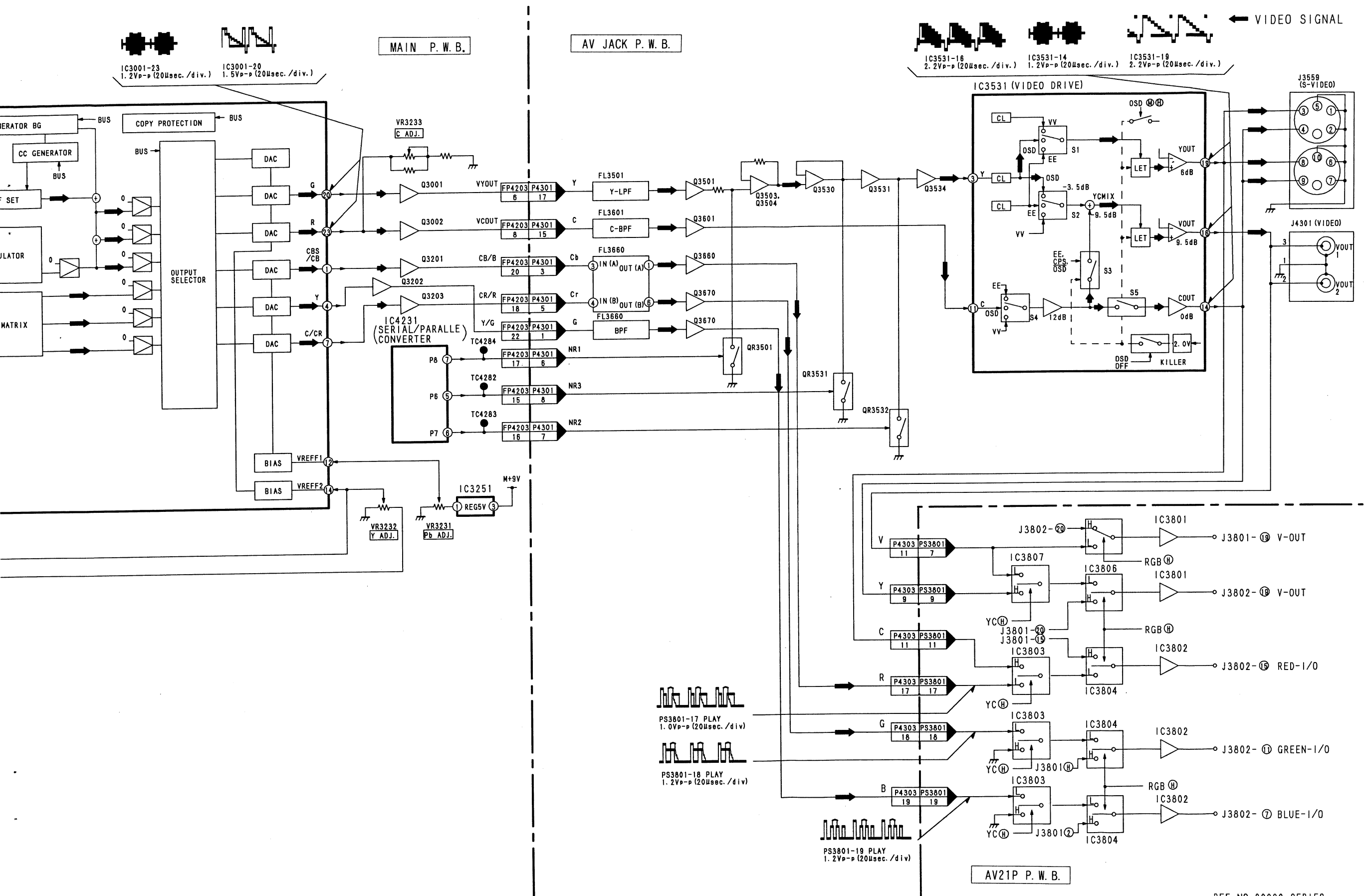


← RF SIGNAL ← DISC MOTOR DRIVE SIGNAL ← TRAVERSE MOTOR DRIVE SIGNAL ← TRACKING ERROR SIGNAL ← FOCUS ERROR SIGNAL

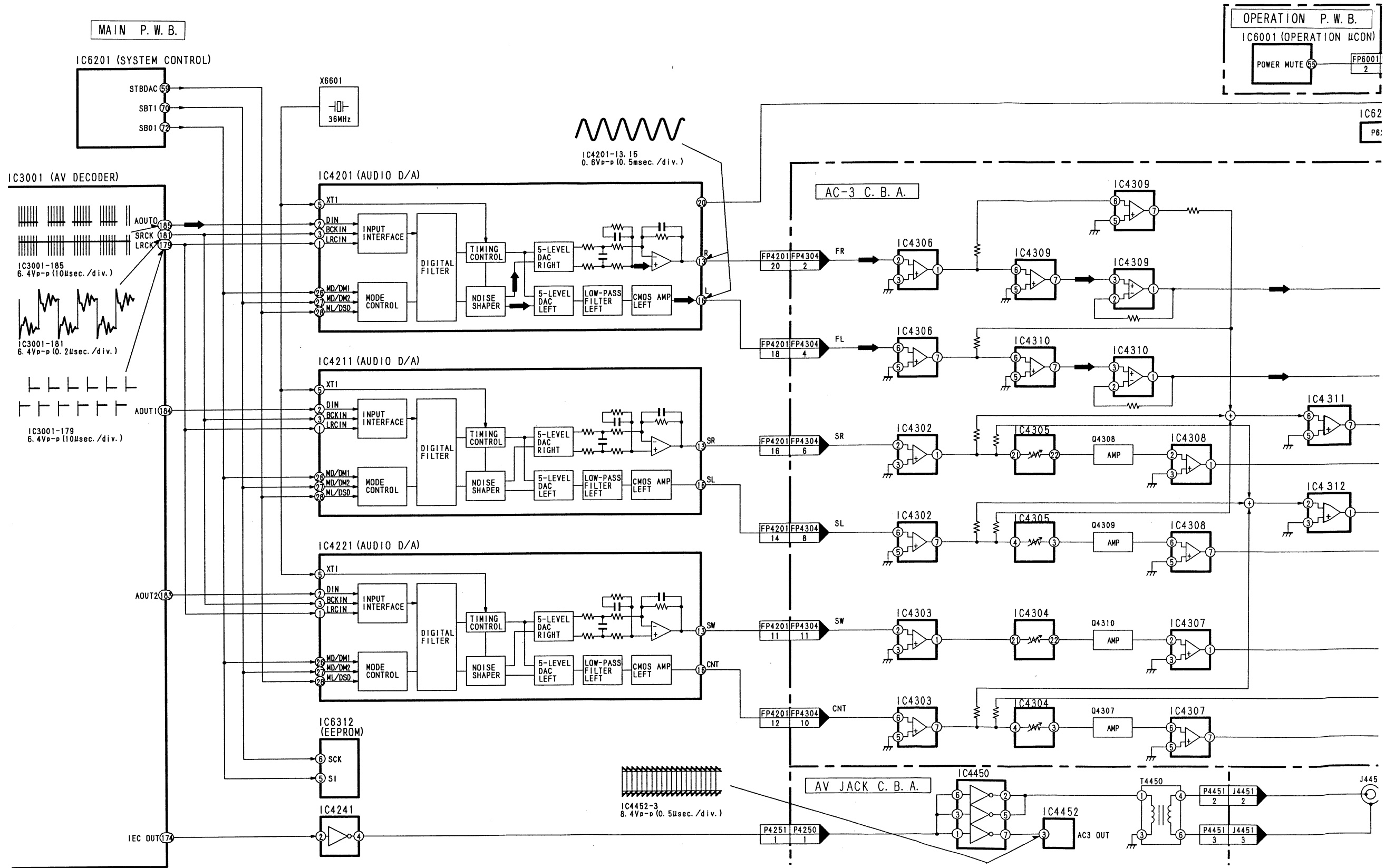


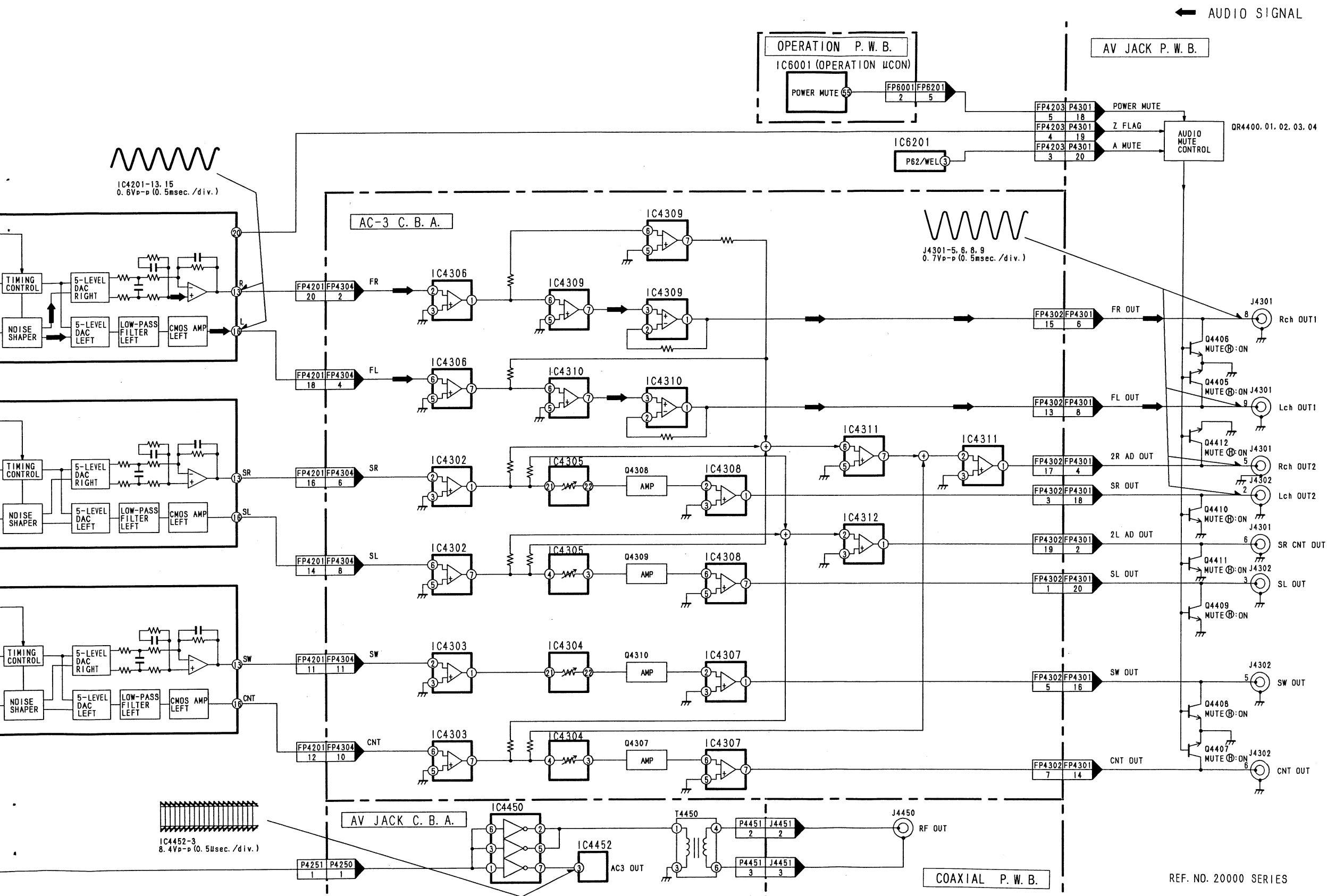
2-4. VIDEO BLOCK DIAGRAM





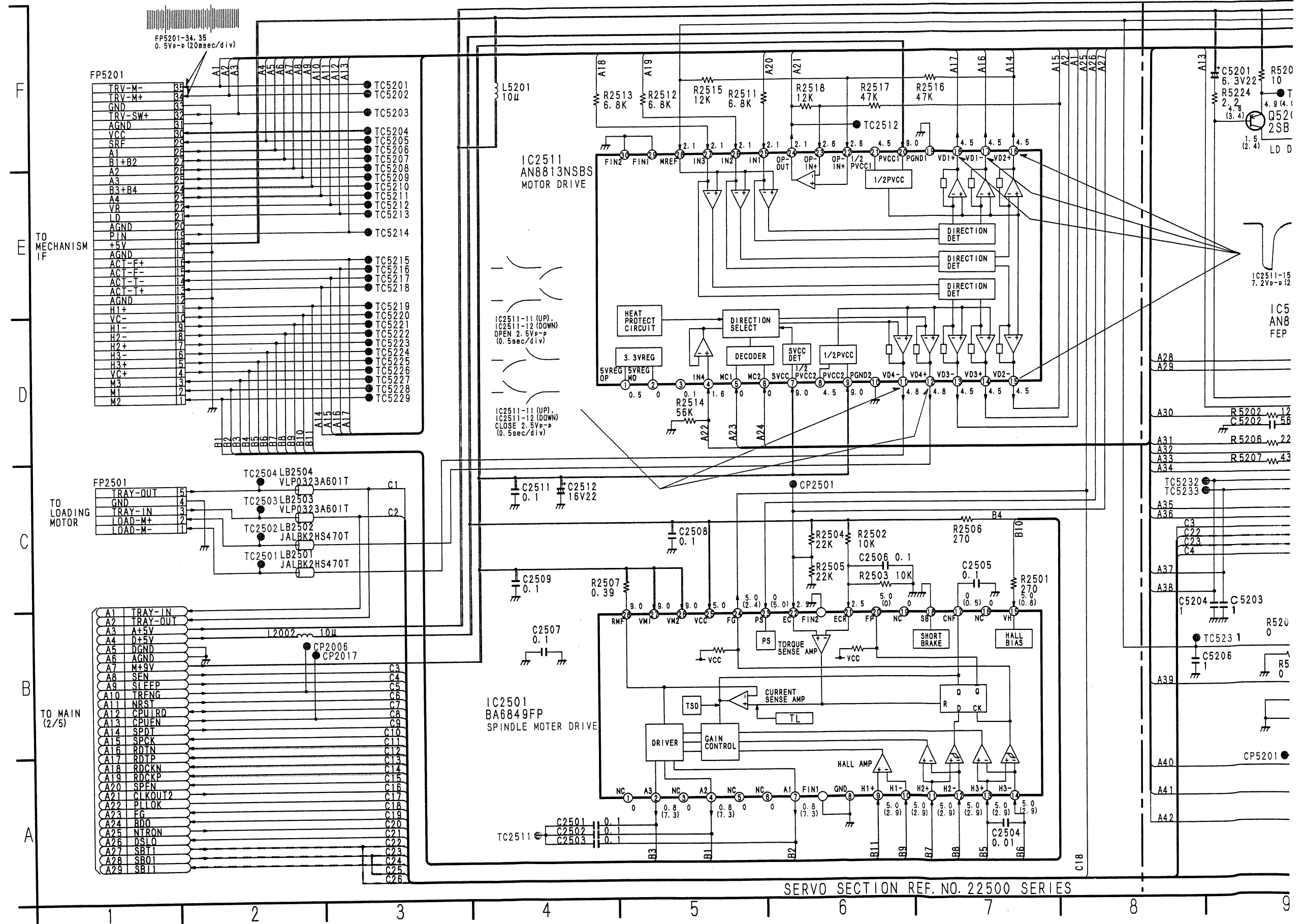
2-5. AUDIO BLOCK DIAGRAM

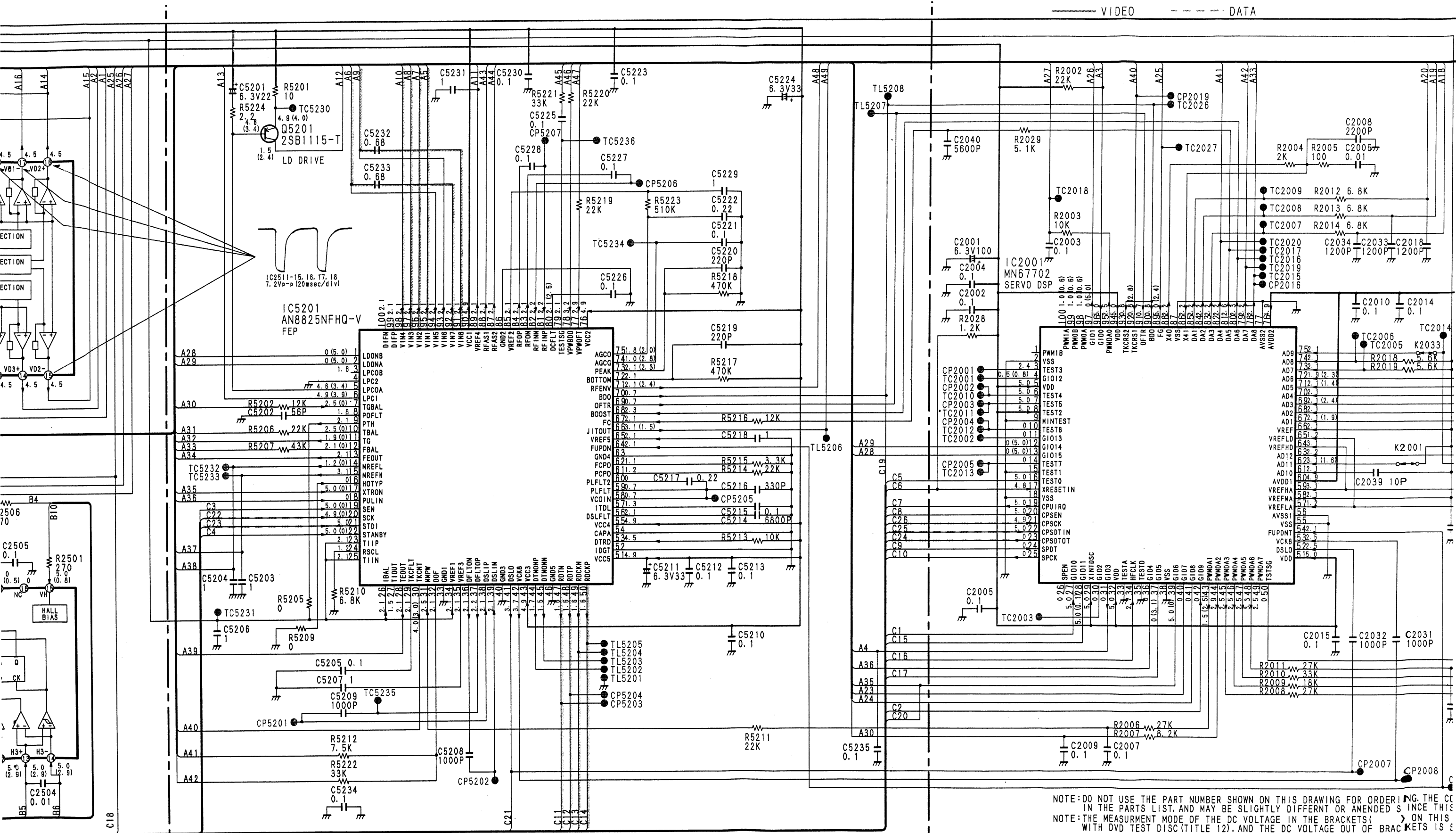


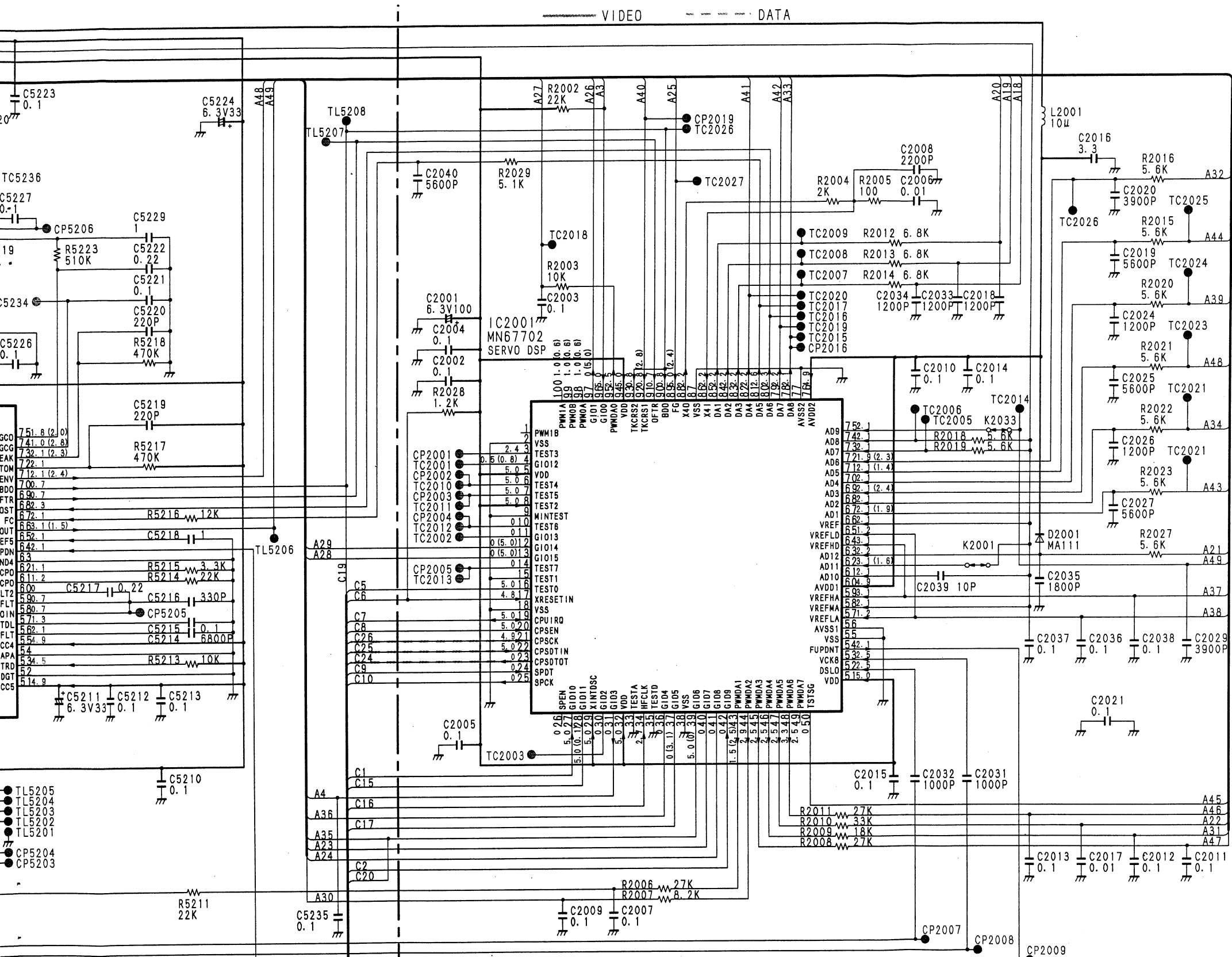


REF. NO. 20000 SERIES

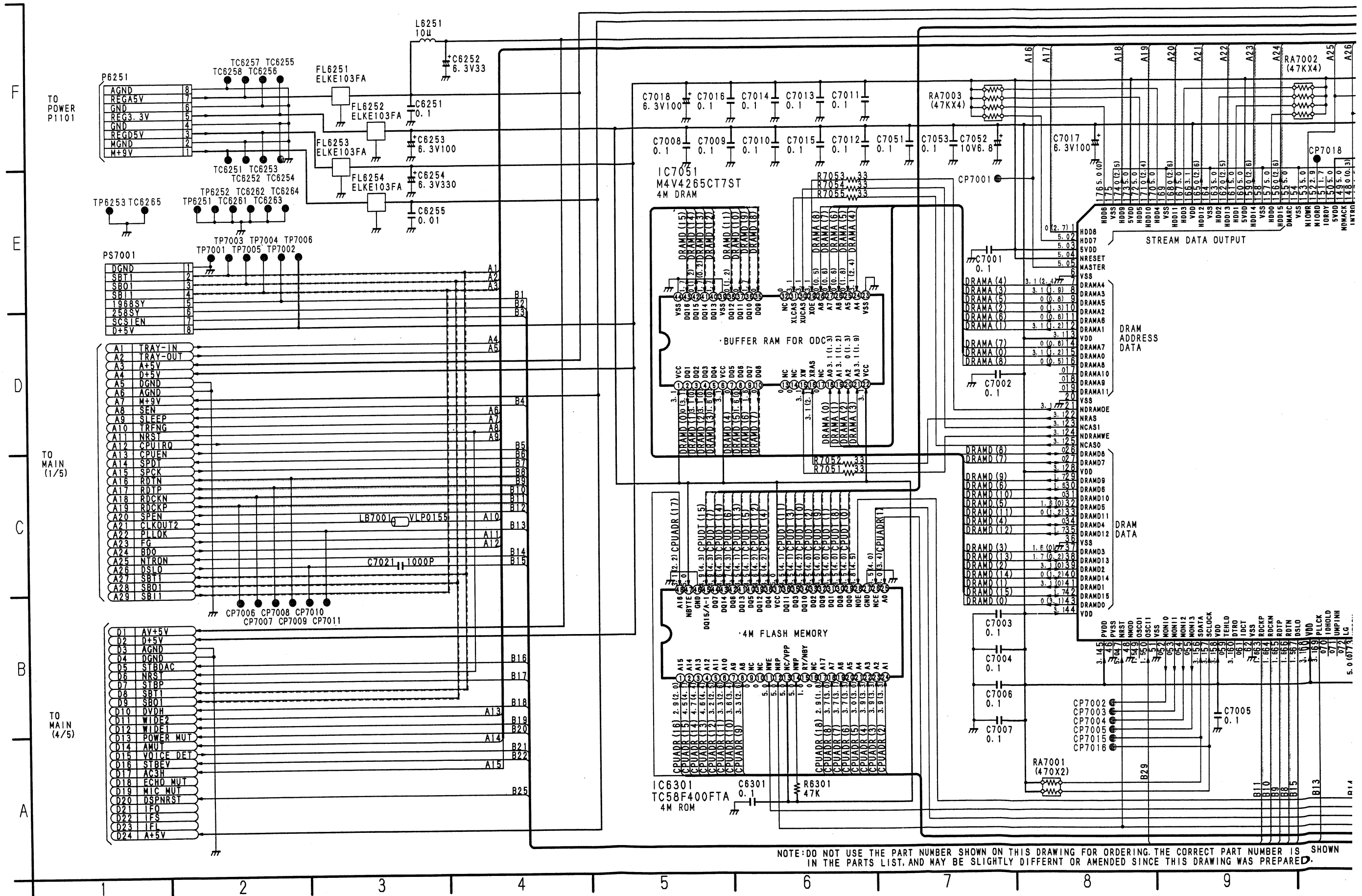
2-6. FEP AND ADSC AND SERVO SECTION (MAIN P.W.B. <1/5>) SCHEMATIC DIAGRAM





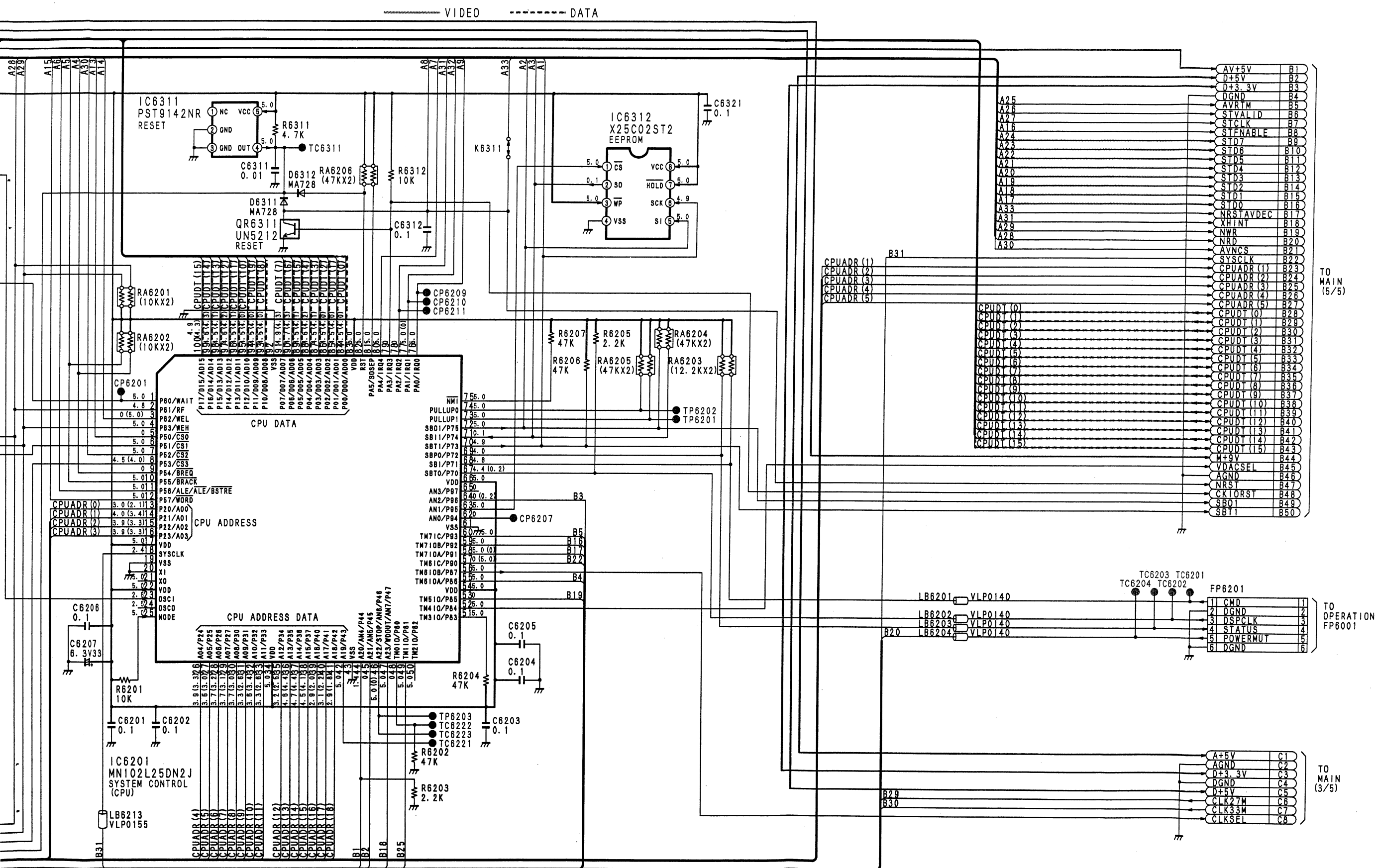


2-7. ODC AND CPU SECTION (MAIN P.W.B. <2/5>) SCHEMATIC DIAGRAM



NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS PLAYBACK MODE WITH DVD TEST DISC (TITLE 12) AND, THE DC VOLTAGE OUT OF BRACKETS IS STOP MODE.



MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS PLAYBACK MODE DVD TEST DISC (TITLE 12) AND THE DC VOLTAGE OUT OF BRACKETS IS STOP MODE.

12

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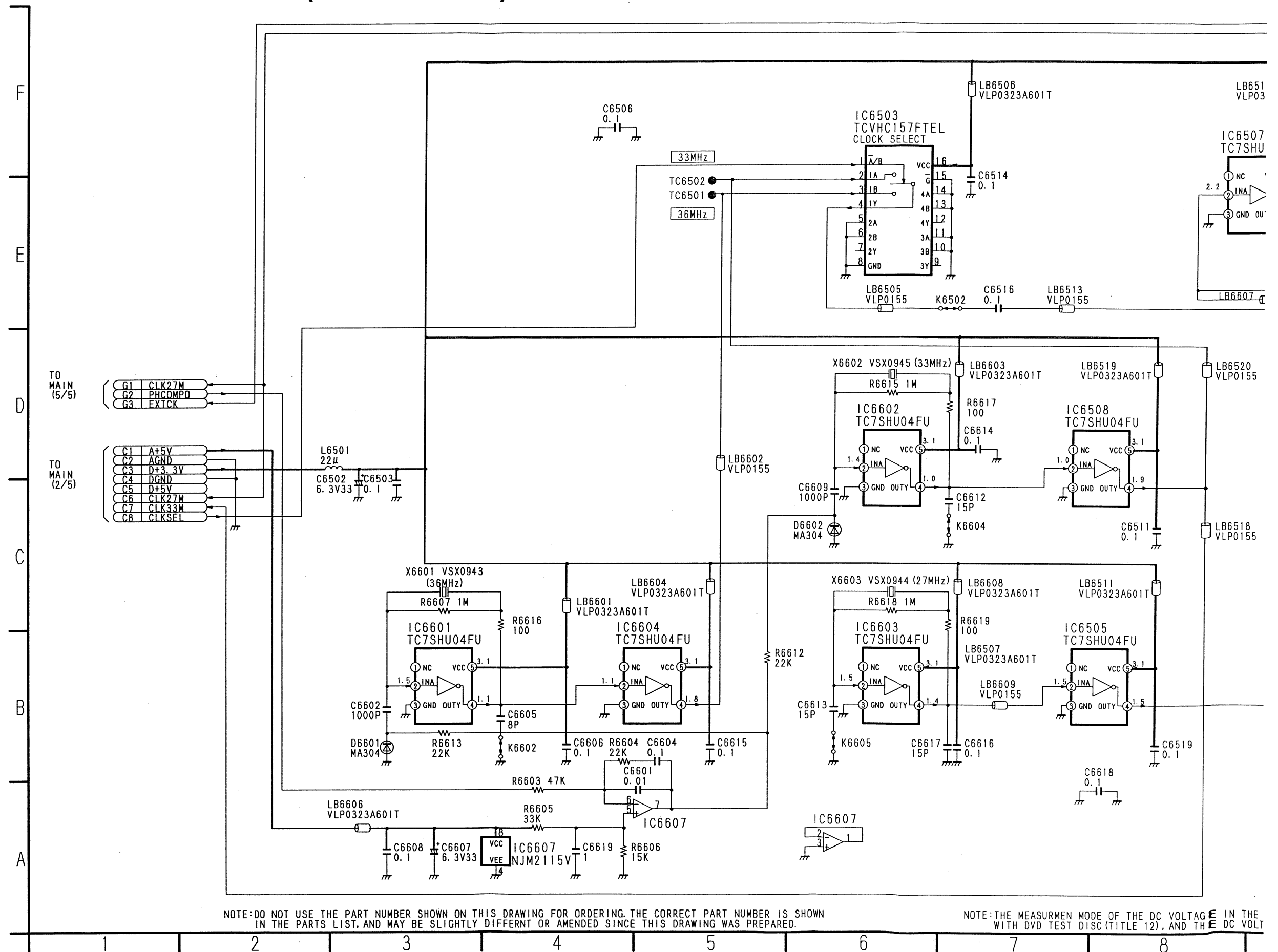
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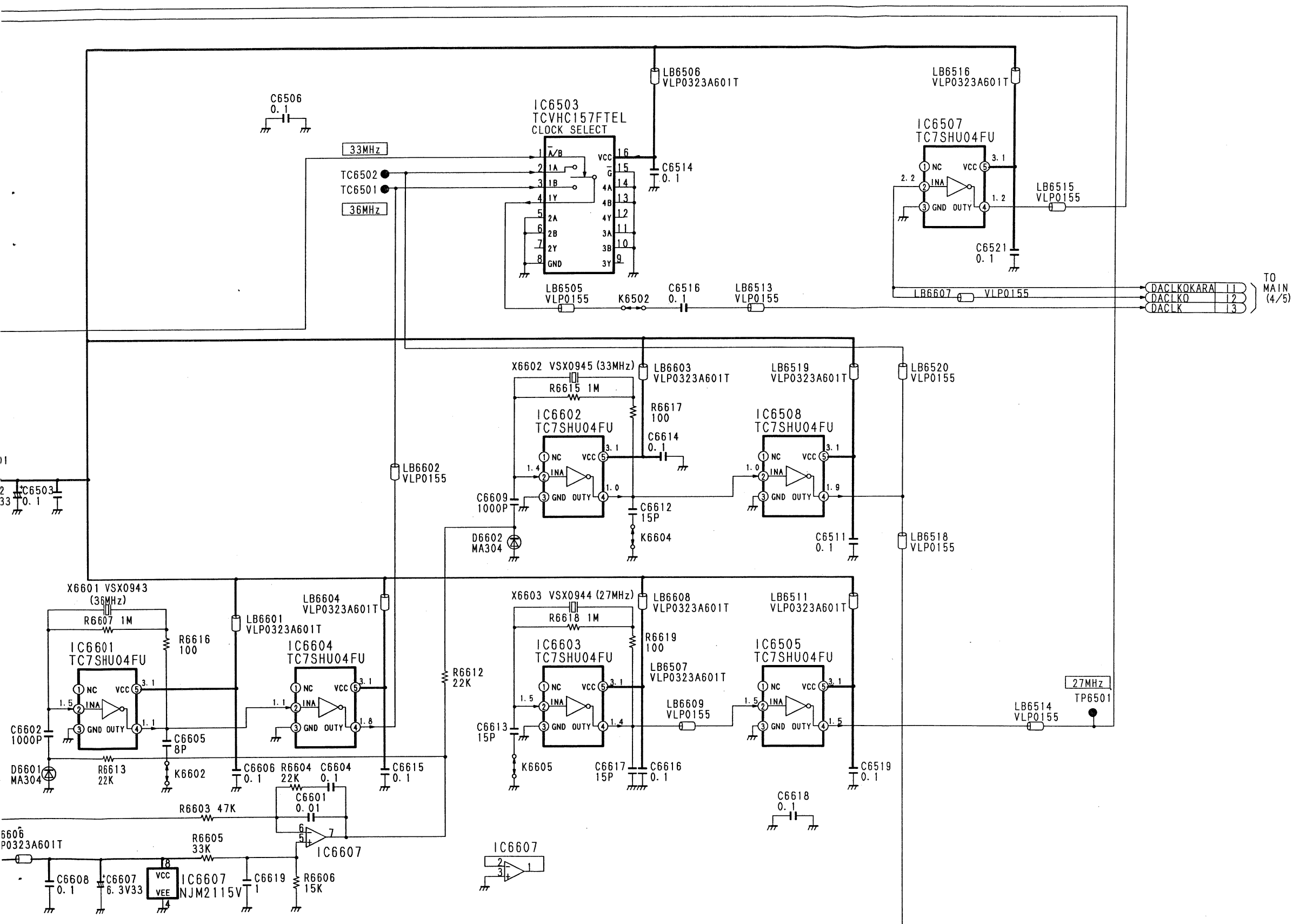
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21

2-8. CLOCK SYNC SECTION (MAIN P.W.B. <3/5>) SCHEMATIC DIAGRAM



IN P.W.B. <3/5>) SCHEMATIC DIAGRAM

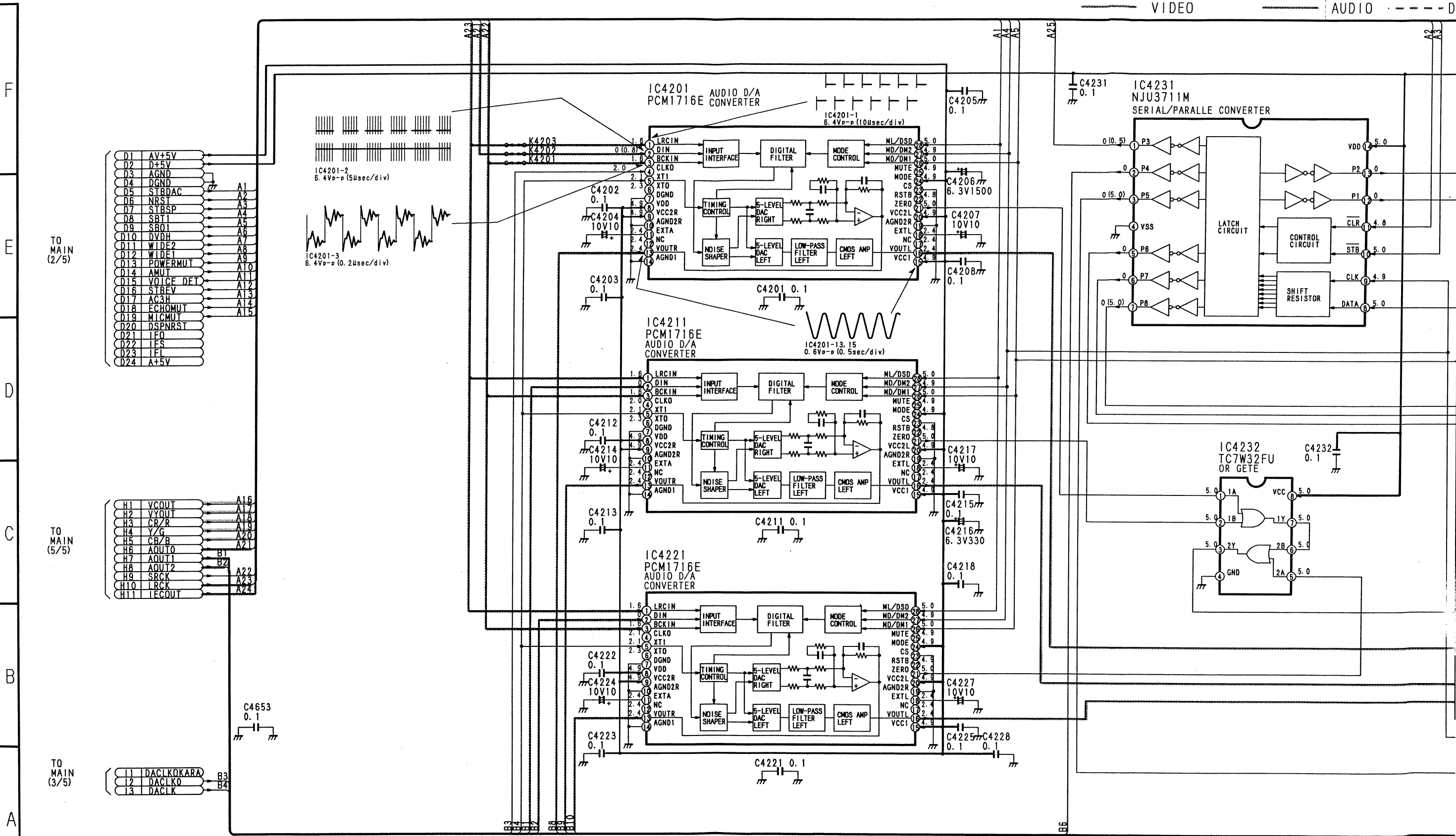


PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
1ST. AND MAY BE SLIGHTLY DIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASURMEN MODE OF THE DC VOLTAGE IN THE BRECKETS () IN THIS DIAGRAM IS PLAYBACK MODE
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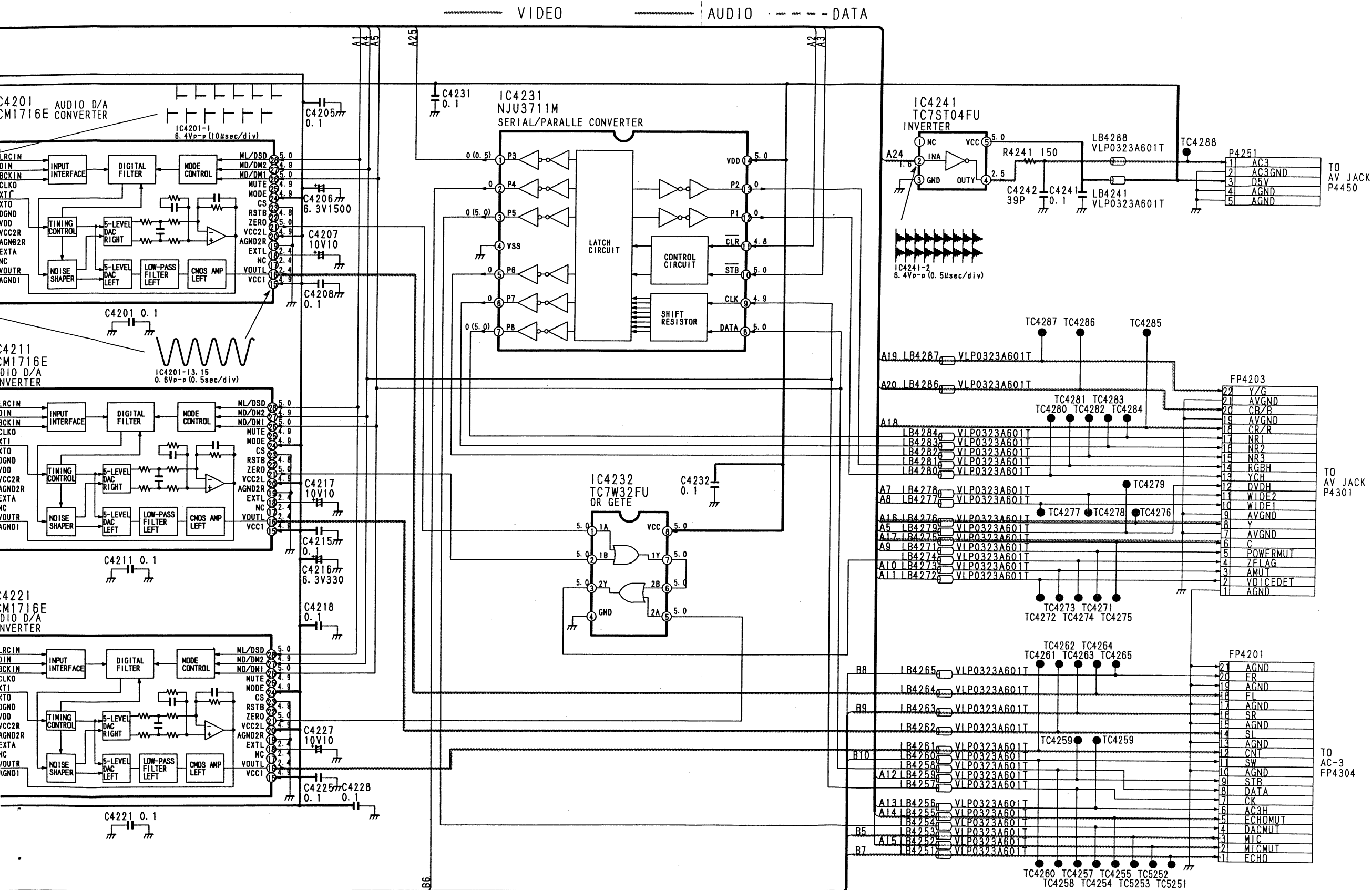
3 4 5 6 7 8 9 10

2-9. AUDIO-DAC SECTION (MAIN P.W.B. <4/5>) SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS PLAYBACK MODE WITH DVD TEST DISC (TITLE 12), AND THE DC VOLTAGE OUT OF BRACKETS IS STOP MODE.

NOTE: DO NOT USE THE CORRECT SLIGHTLY I



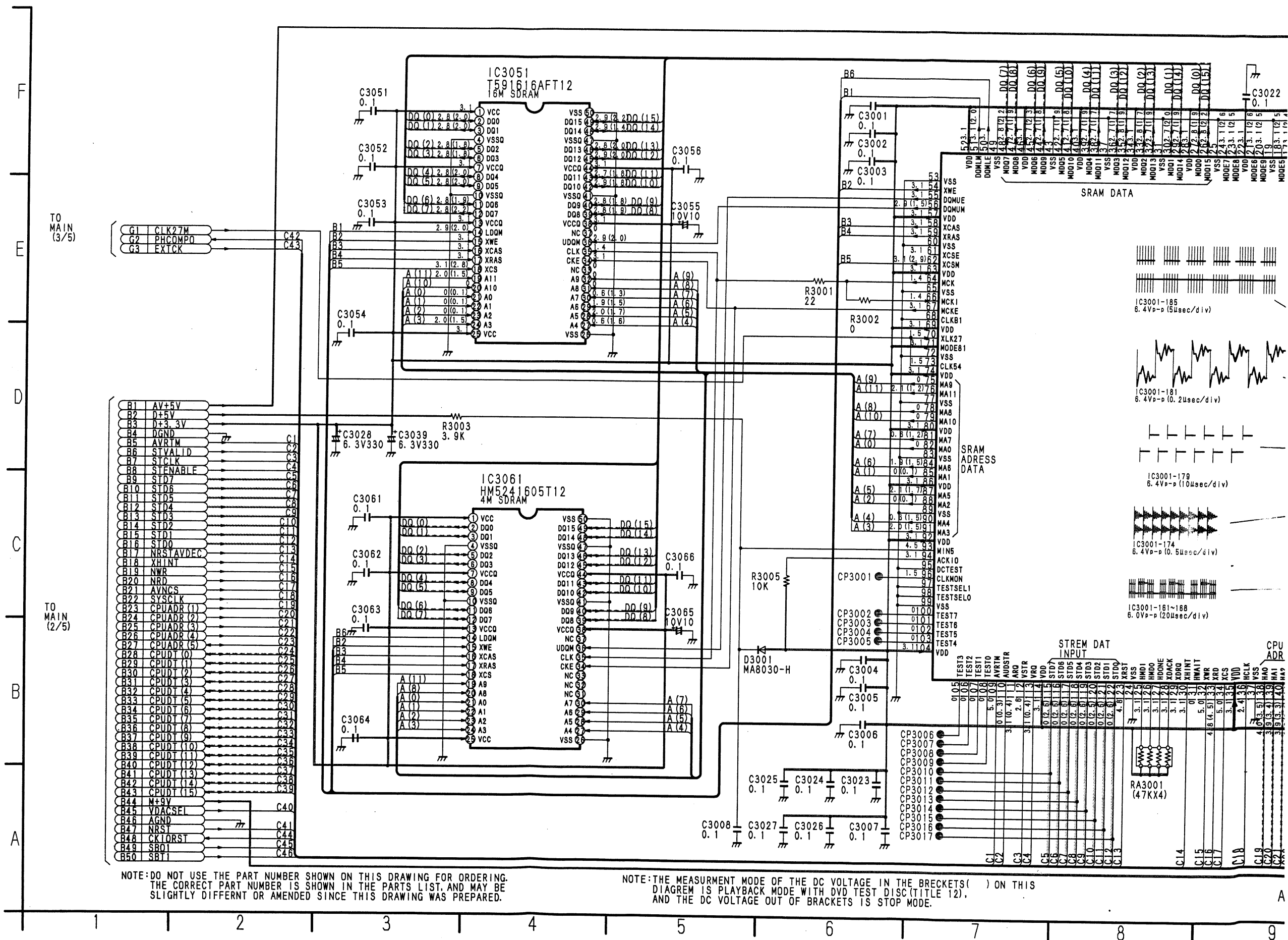
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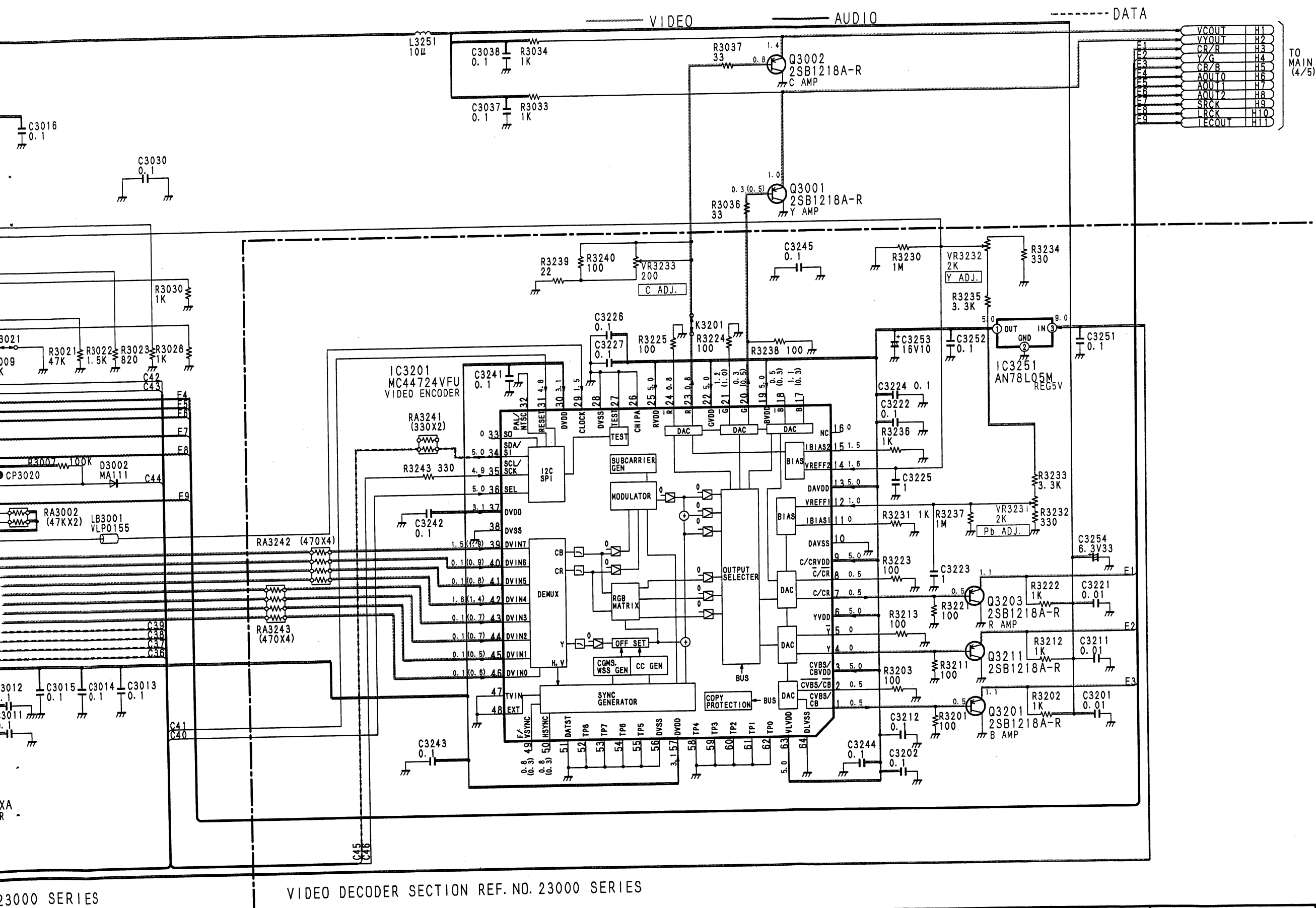
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS PLAYBACK MODE WITH DVD TEST DISC (TITLE 12), AND THE DC VOLTAGE OUT OF BRACKETS IS STOP MODE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

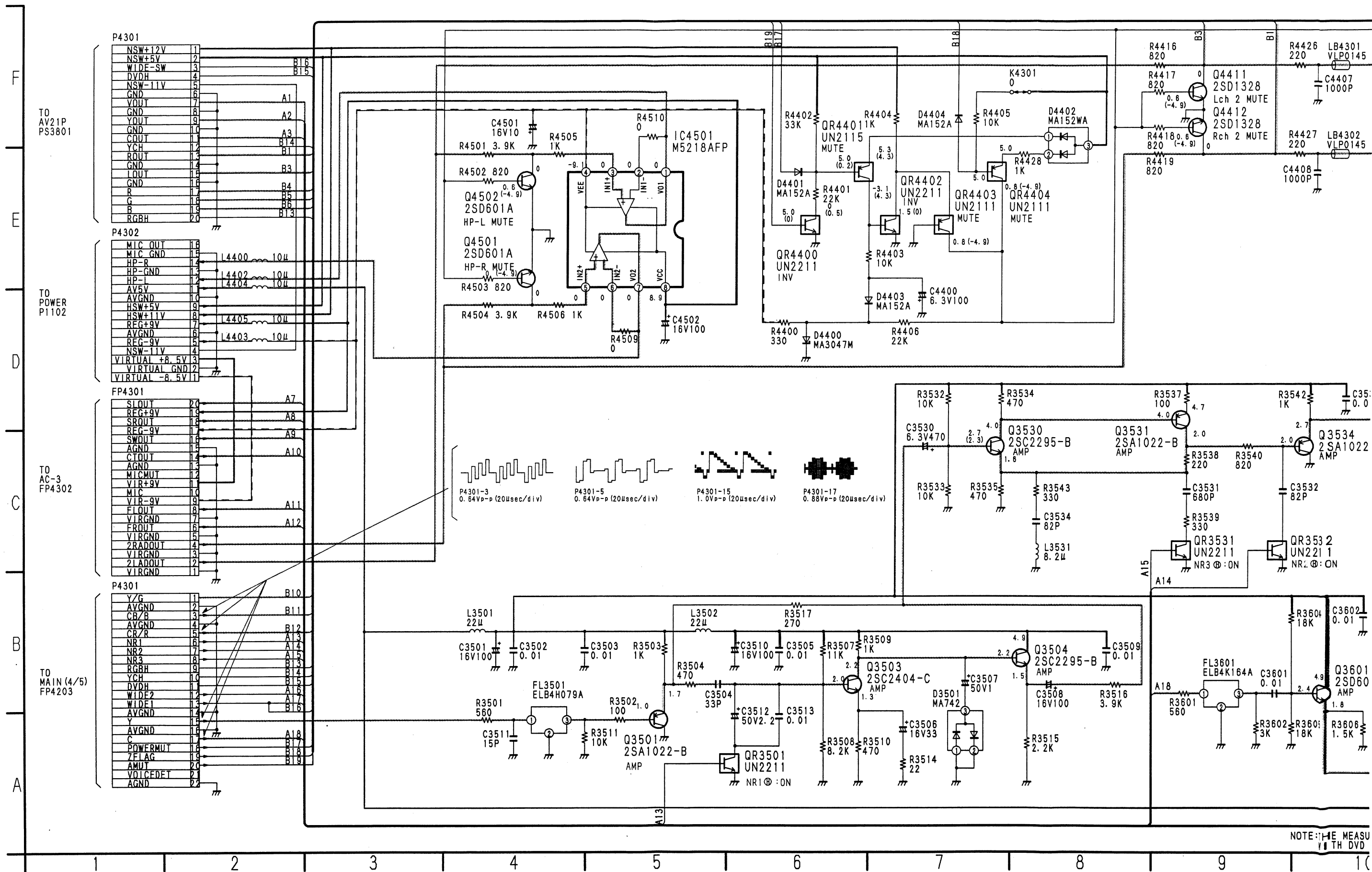
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2-10. AVDEC AND VIDEO-DAC SECTION (MAIN P.W.B. <5/5>) SCHEMATIC DIAGRAM

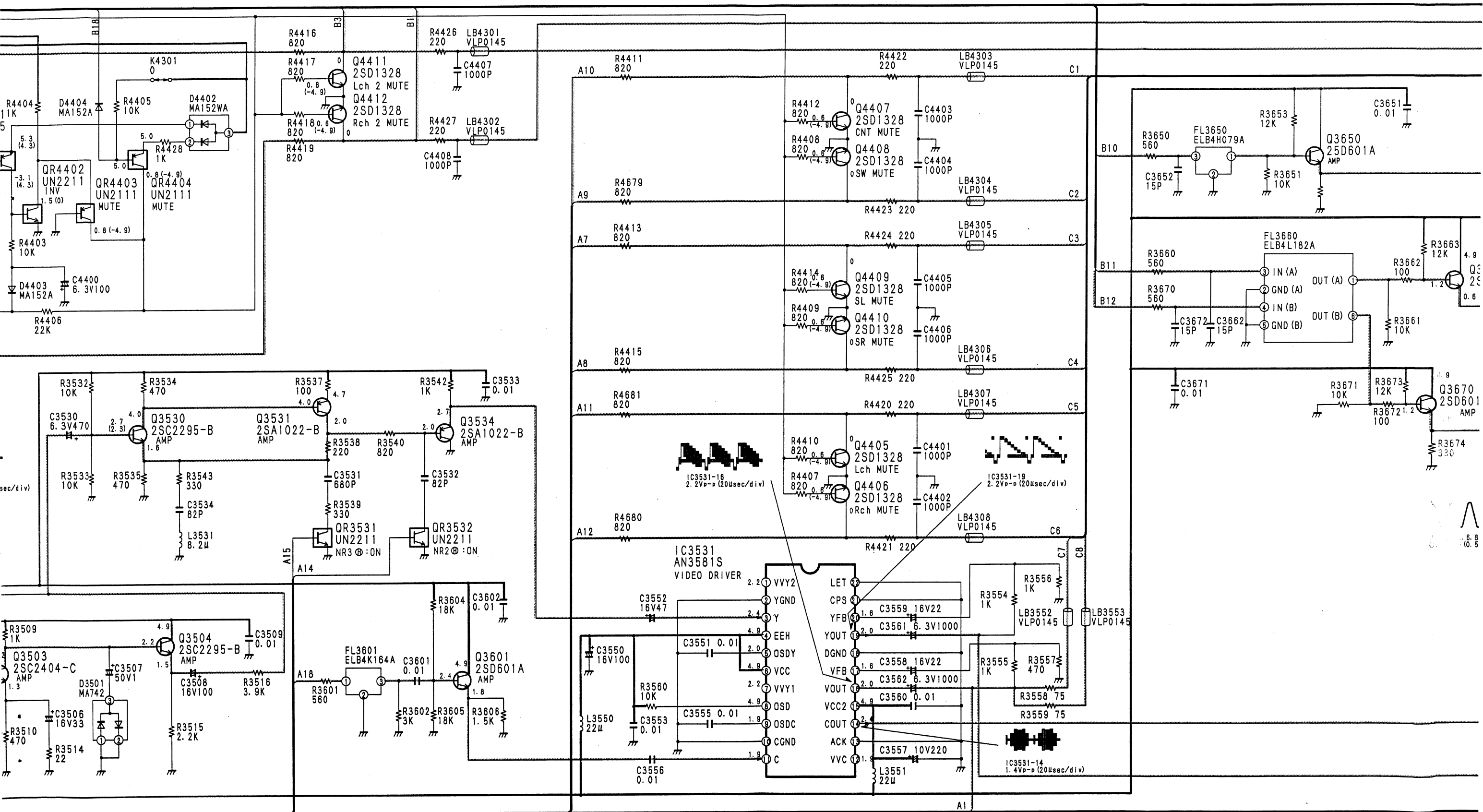




2-11. AV JACK SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT IS WITH DVD



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11

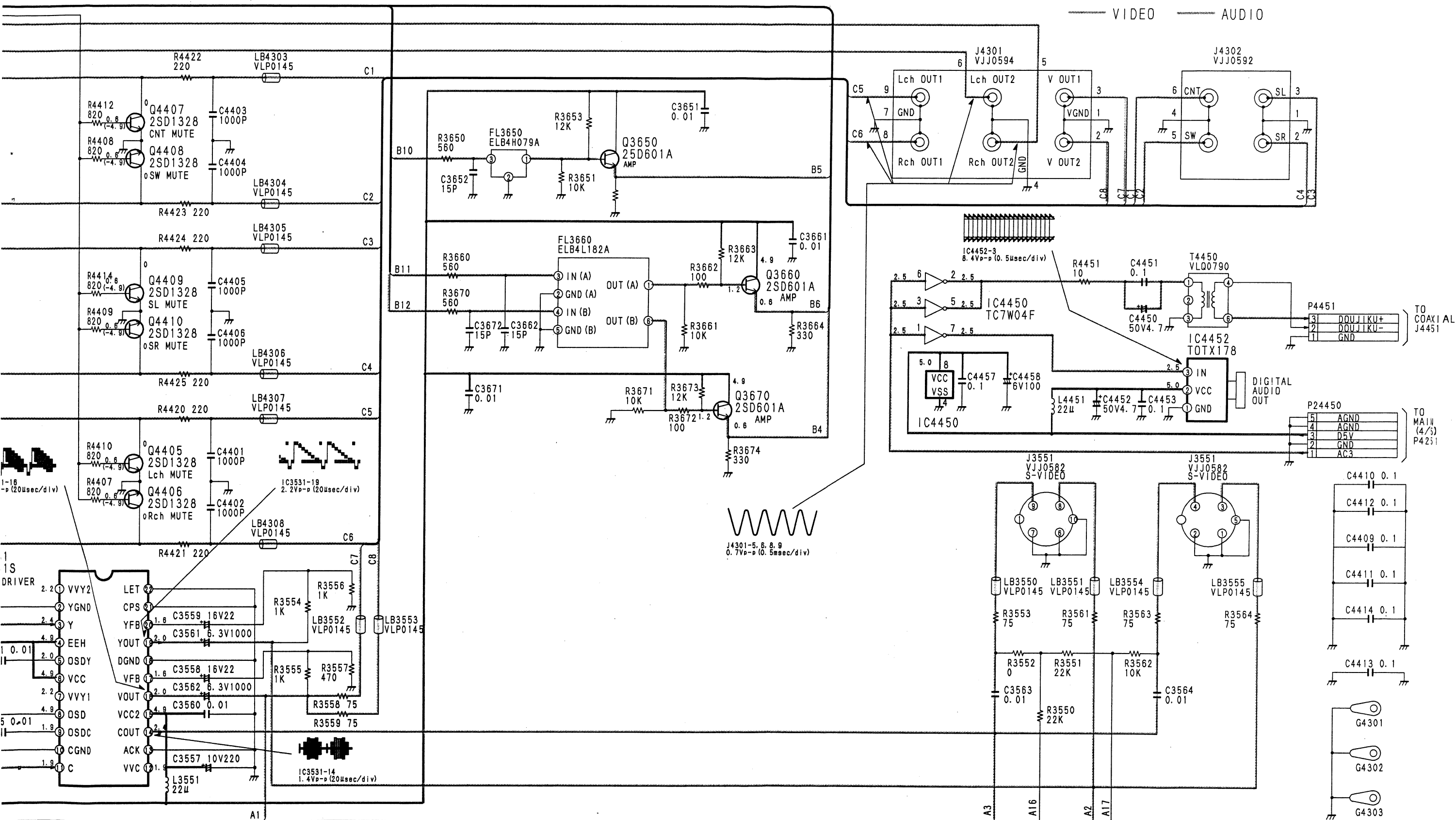
12

13

14

15

16

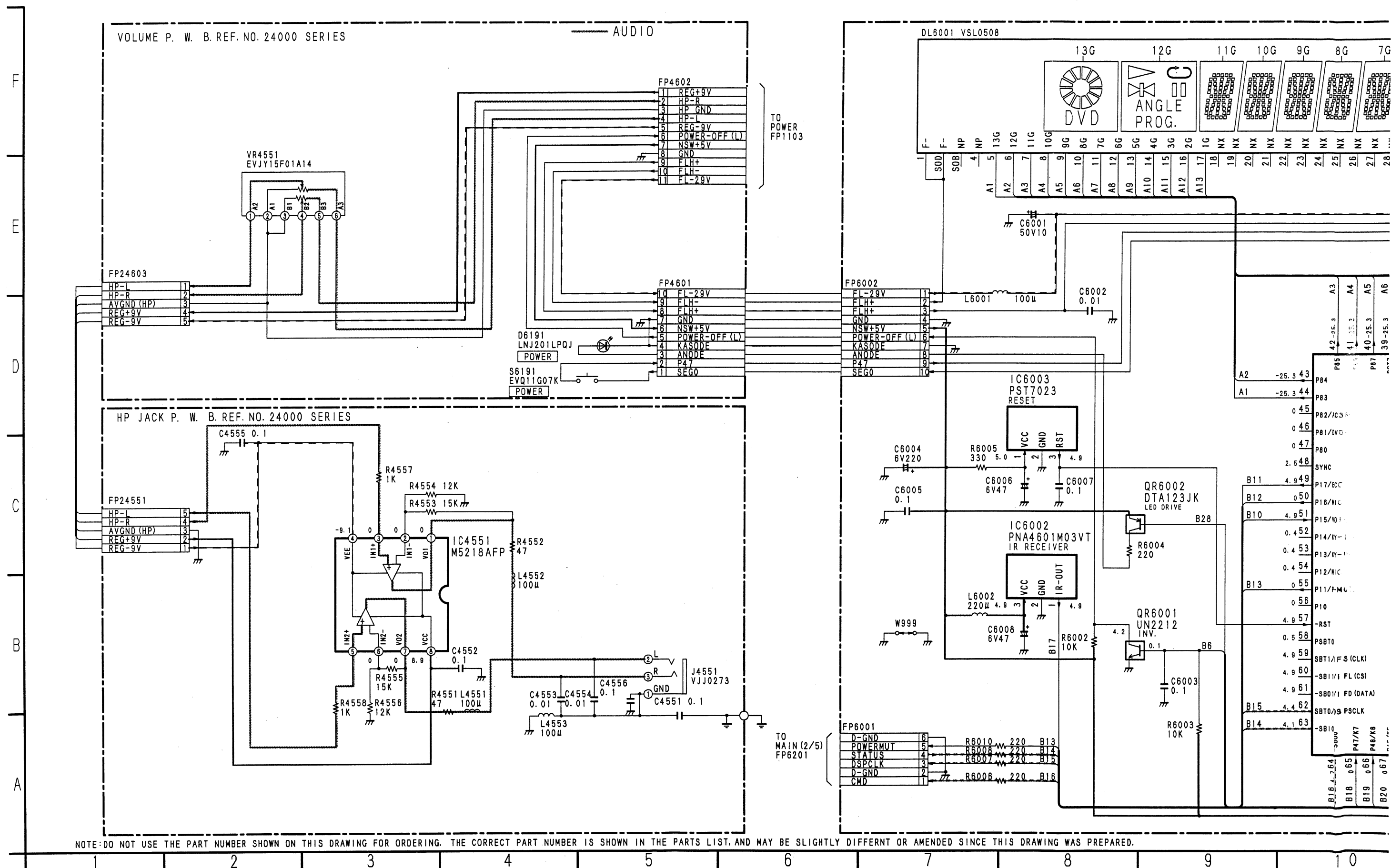


BRACKETS () ON THIS DIAGRAM IS PLAYBACK MODE
AGE OUT OF BRACKETS IS STOP MODE.

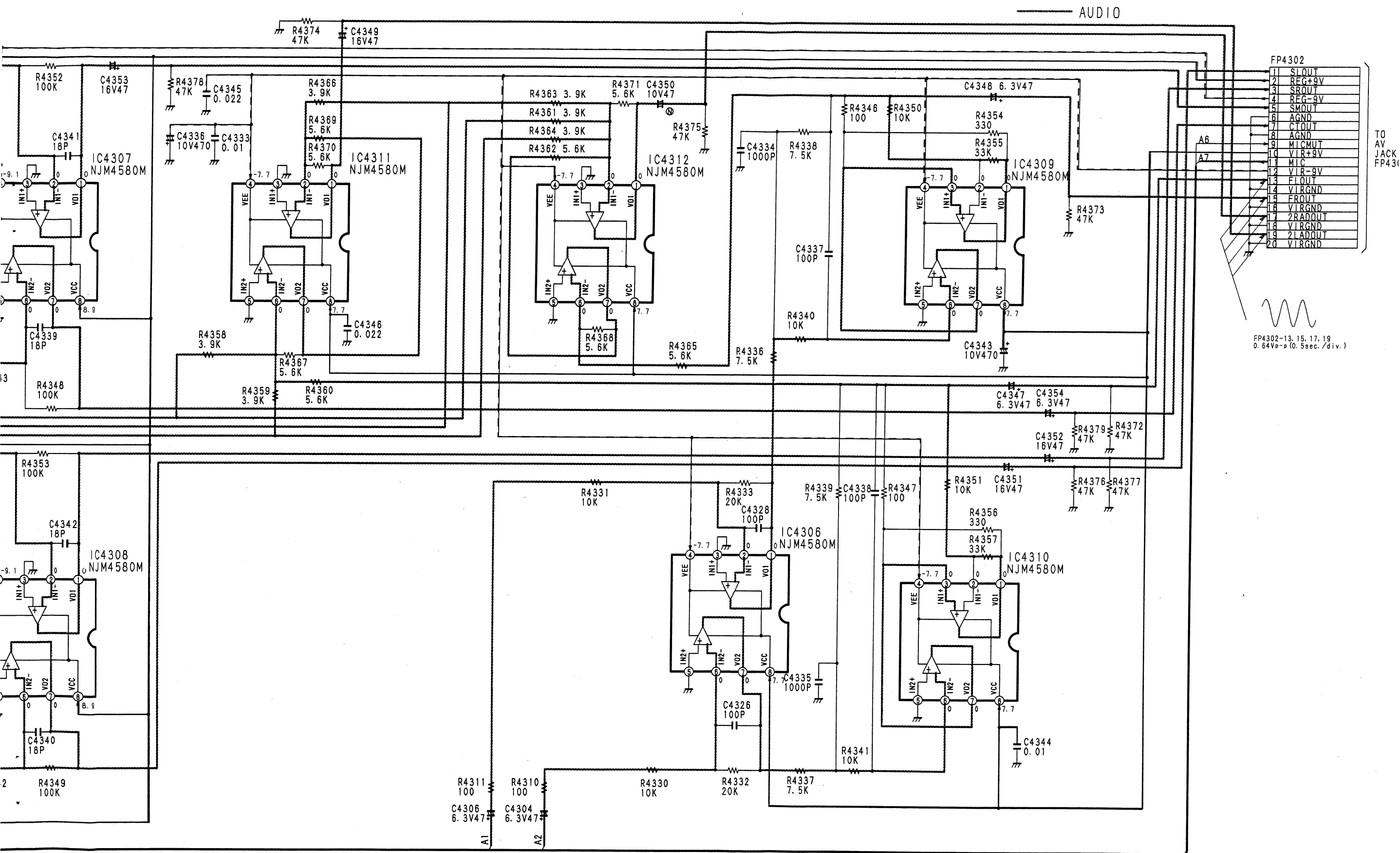
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

REF. NO. 20000 SERIES

2-12. OPERATION, VOLUME, HP JACK AND COAXIAL SCHEMATIC DIAGRAM



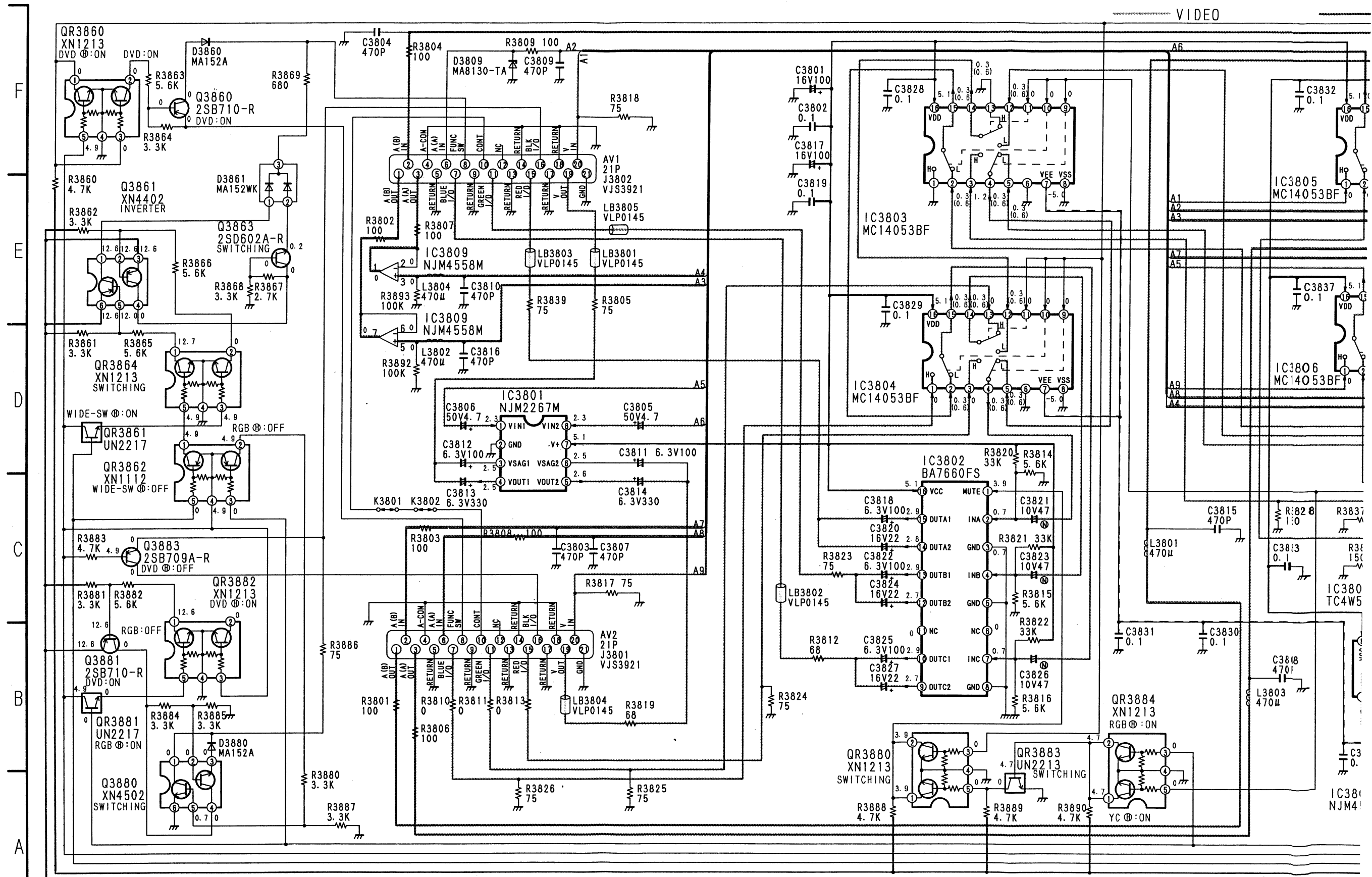
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.



NOTE: DO NOT USE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

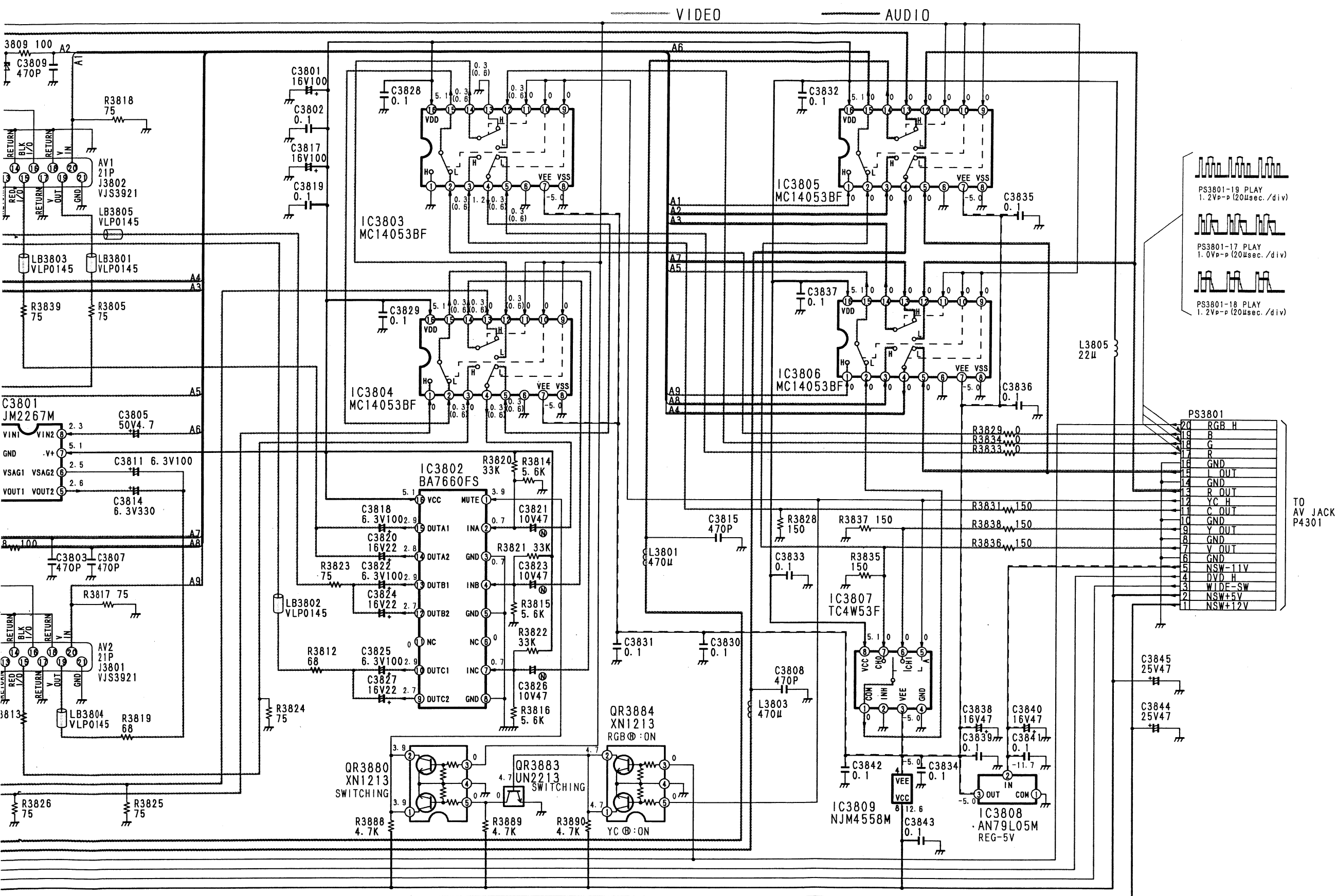
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS PLAYBACK MODE WITH DVD TEST DISC (TITLE 12) AND, THE DC VOLTAGE OUT OF BRACKETS IS STOP MODE.

2-14. AV21P SCHEMATIC DIAGRAM



NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS () ON THIS DIAGRAM IS PLAYBACK WITH DVD TEST DISC (TITLE 12), AND THE DC VOLTAGE OUT OF BRACKETS IS STOP MODE.




2-15. POWER SUPPLY SCHEMATIC DIAGRAM

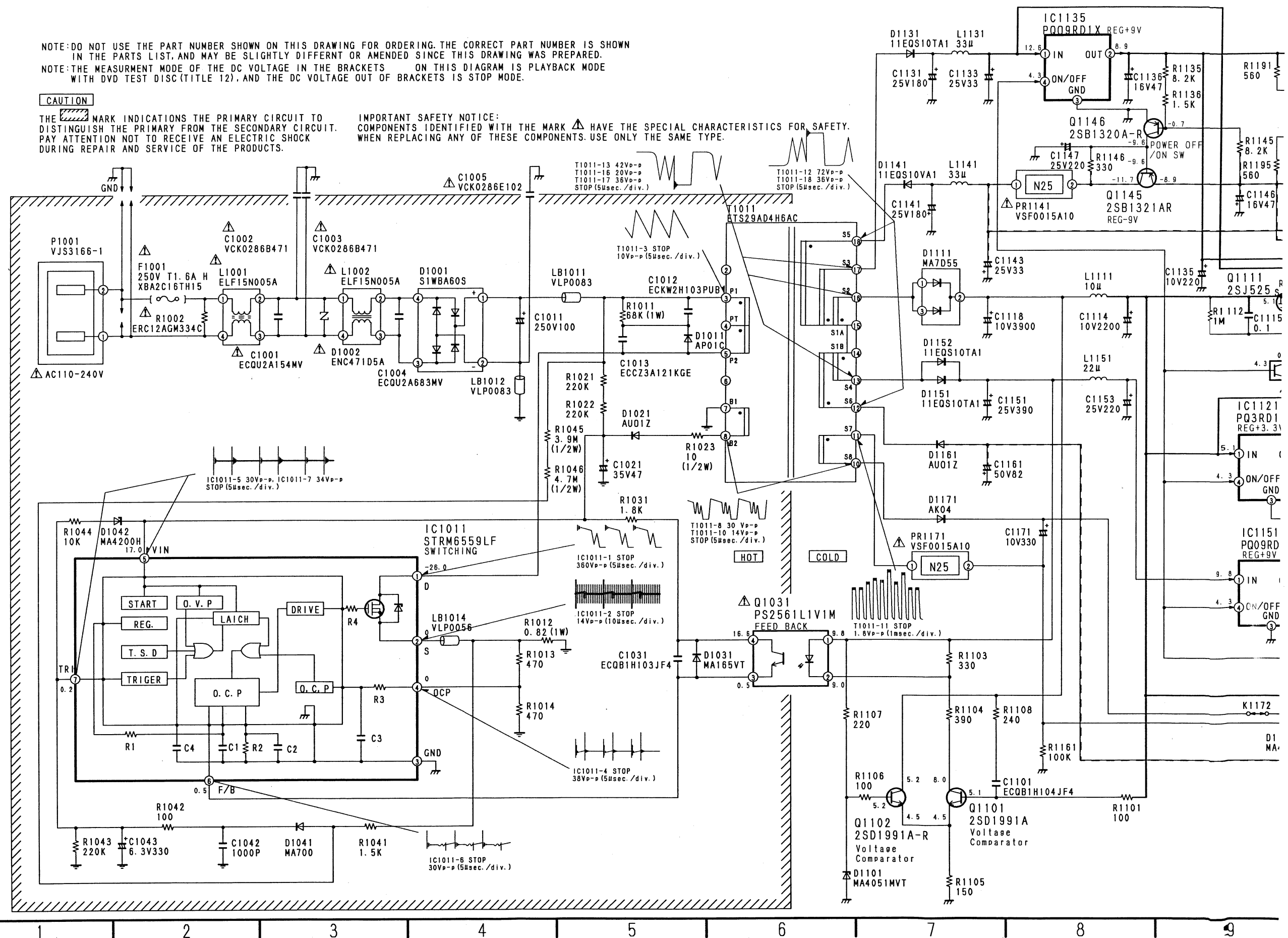
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH DVD TEST DISC (TITLE 12), AND THE DC VOLTAGE OUT OF BRACKETS IS STOP MODE.

CAUTION

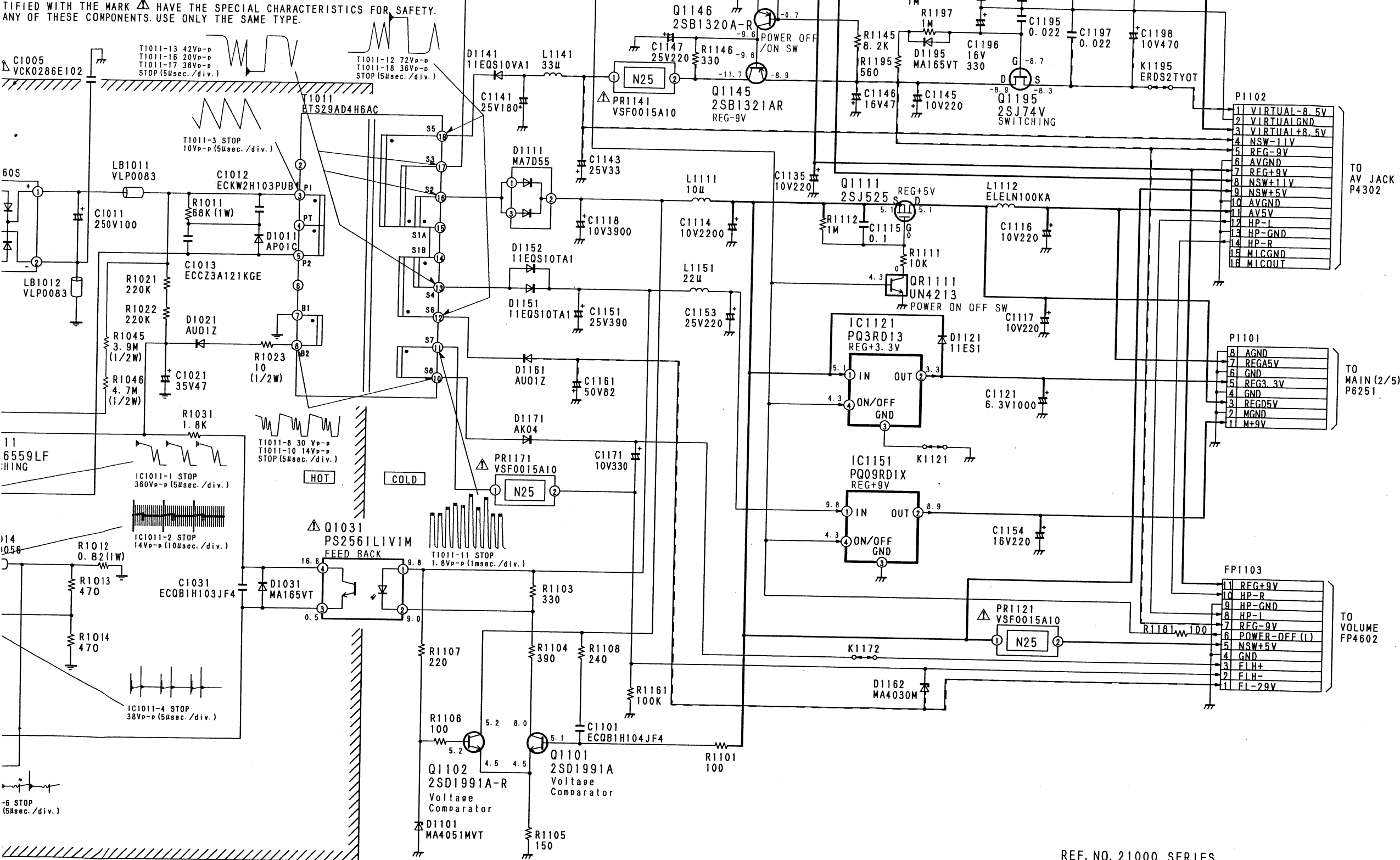
THE  MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT. PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.



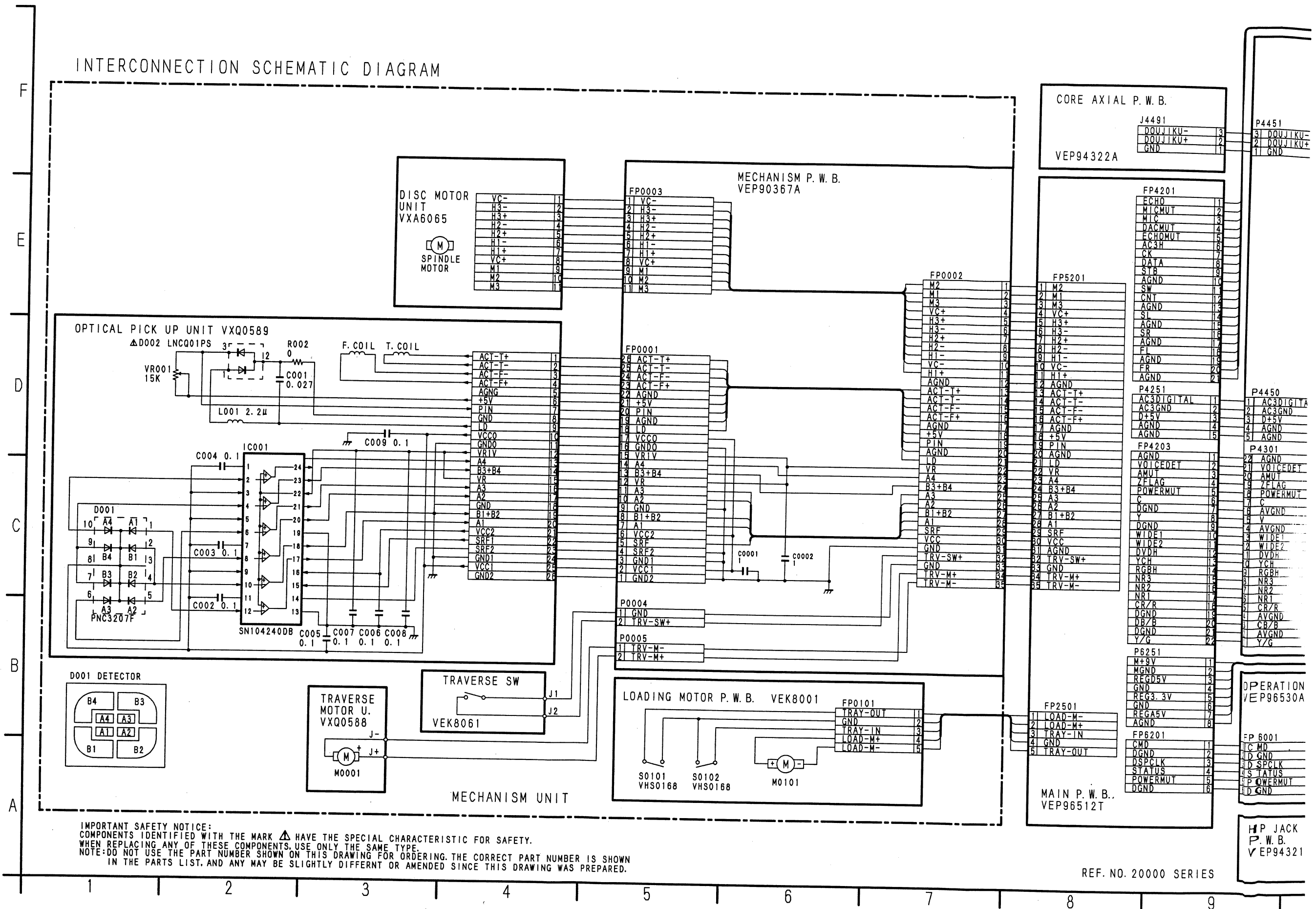
THE CORRECT PART NUMBER IS SHOWN
THIS DRAWING WAS PREPARED.
IS DIAGRAM IS PLAYBACK MODE
IS STOP MODE.

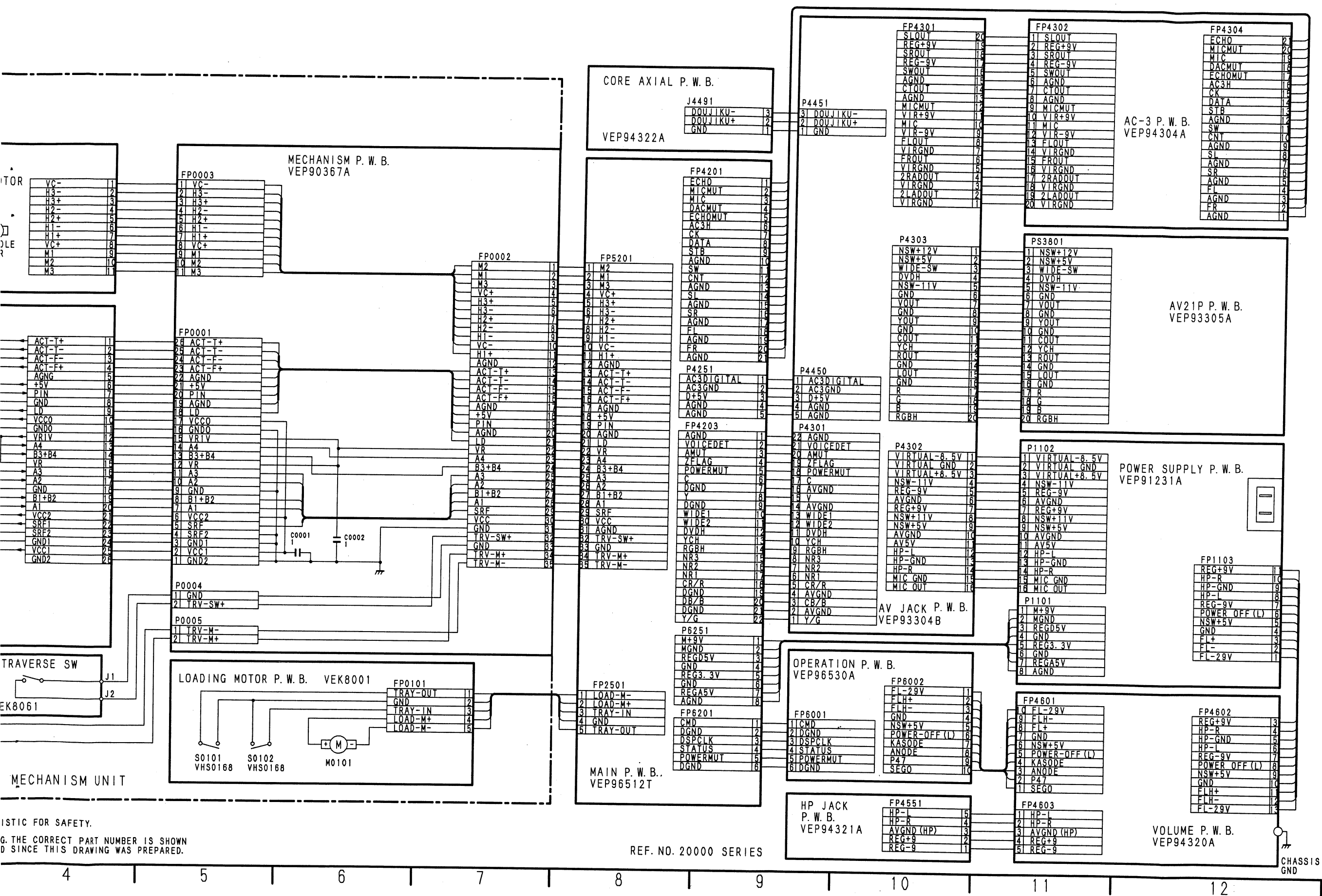
Y NOTICE:
IFIED WITH THE MARK Δ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.



REF. NO. 21000 SERIES

2-16. INTERCONNECTION SCHEMATIC DIAGRAM



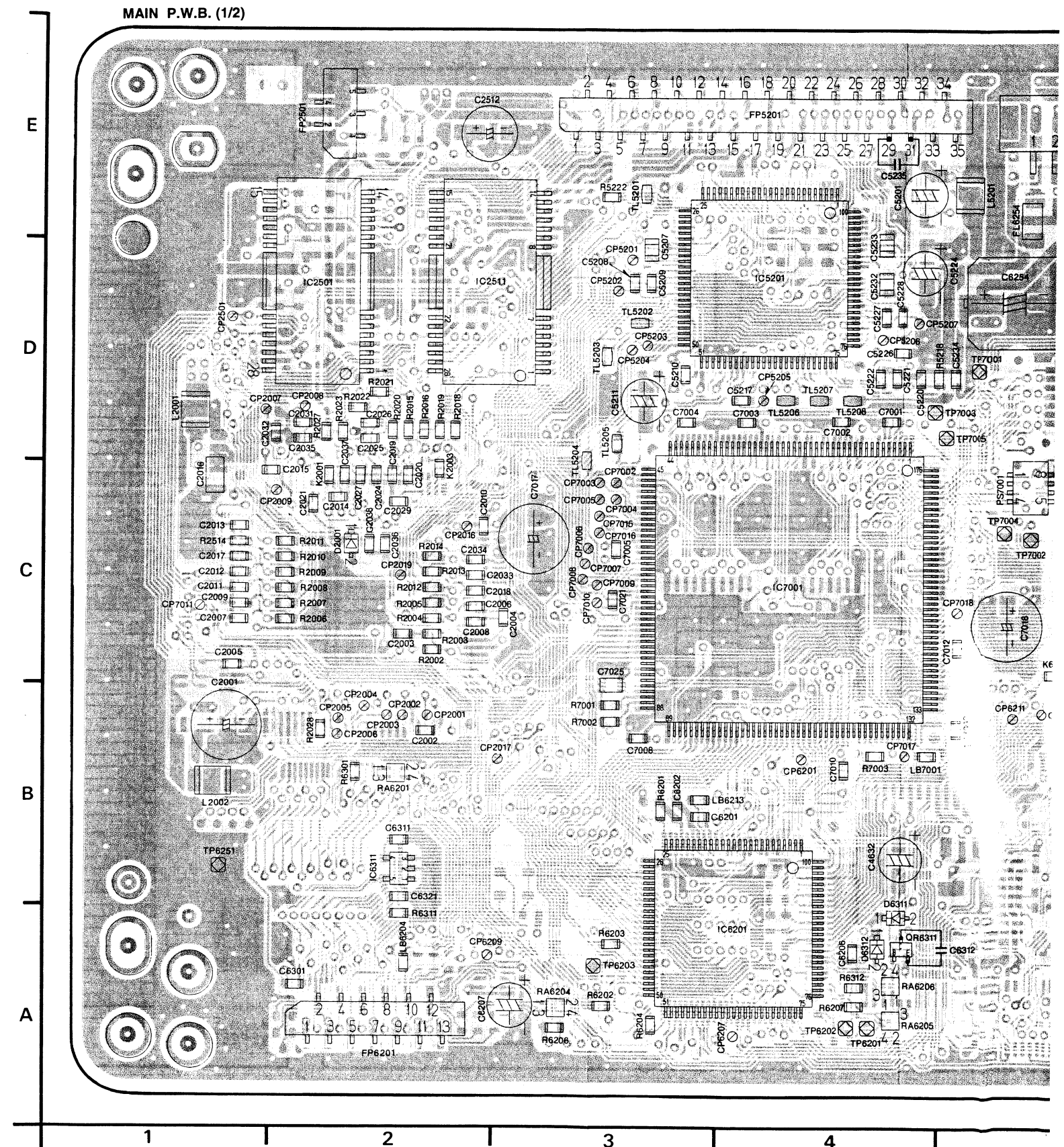


2-17. MAIN P.W.B.(VEP96512F)

MAIN P.W.B.

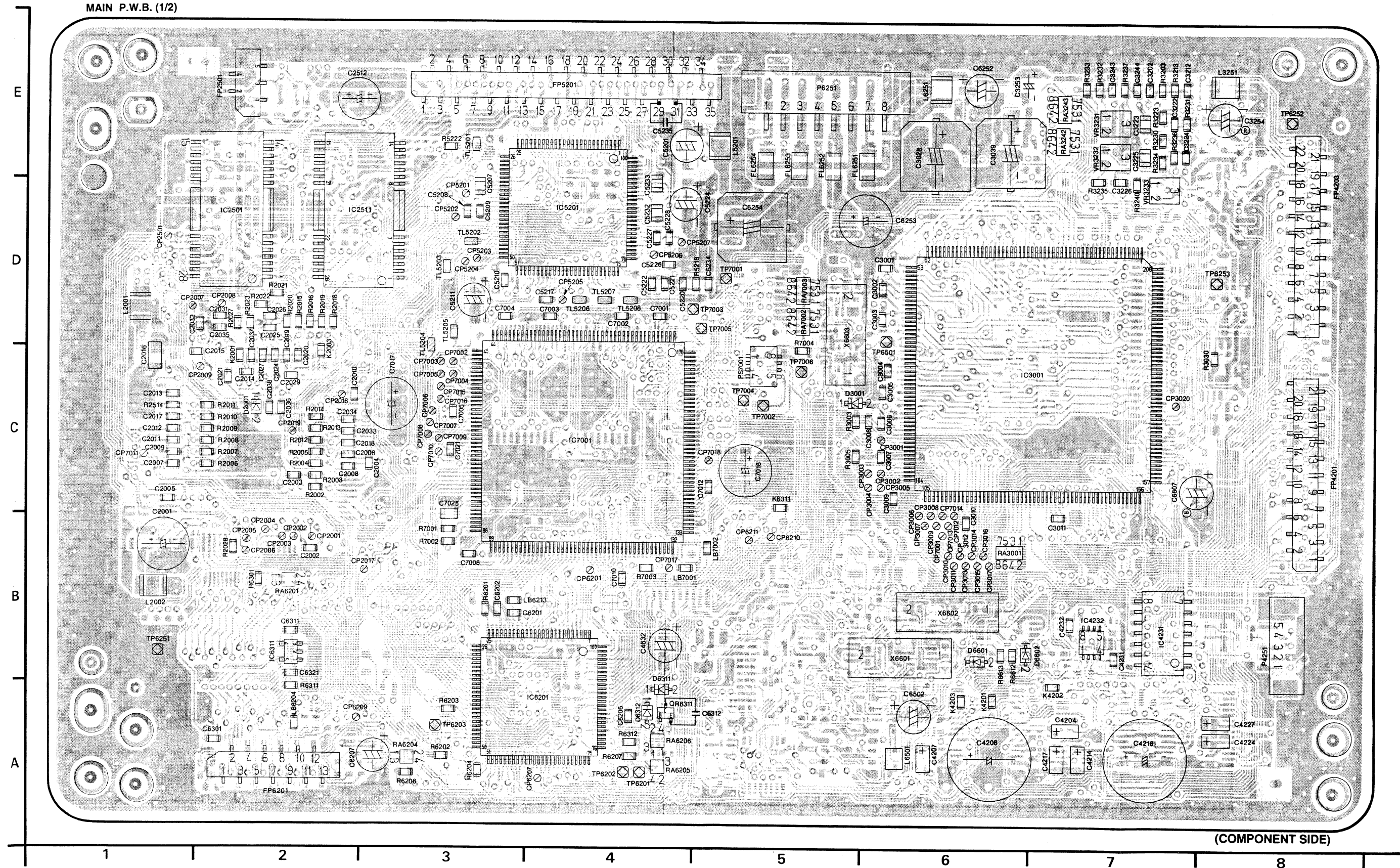
Transistors		TC4256	B-9	Ⓕ	TC6256	E-12	Ⓕ	CP6201	B-4	Ⓕ
Q3001	D-10	TC4257	B-9	Ⓕ	TC6257	E-12	Ⓕ	CP6207	A-4	Ⓕ
Q3002	D-10	TC4258	B-9	Ⓕ	TC6258	E-12	Ⓕ	CP6209	A-2	Ⓕ
Q3201	E-10	TC4259	B-9	Ⓕ	TC6261	B-16	Ⓕ	CP6210	C-5	Ⓕ
Q3203	E-10	TC4260	B-9	Ⓕ	TC6262	B-9	Ⓕ	CP6211	C-5	Ⓕ
Q3211	E-10	TC4261	B-9	Ⓕ	TC6263	E-9	Ⓕ	CP7001	B-6	Ⓕ
Q5201	E-13	TC4262	B-9	Ⓕ	TC6264	D-16	Ⓕ	CP7002	C-3	Ⓕ
		TC4263	B-9	Ⓕ	TC6265	E-11	Ⓕ	CP7003	C-3	Ⓕ
		TC4264	B-9	Ⓕ	TC6501	A-12	Ⓕ	CP7004	C-3	Ⓕ
Transistor-Resistor		TC4265	B-9	Ⓕ	TC6502	B-12	Ⓕ	CP7005	C-3	Ⓕ
QR6311	A-4	TC4271	D-9	Ⓕ	TL5201	E-3	Ⓕ	CP7006	C-3	Ⓕ
Integrated Circuits		TC4272	C-9	Ⓕ	TL5202	D-3	Ⓕ	CP7007	C-3	Ⓕ
IC2001	C-15	TC4273	D-9	Ⓕ	TL5203	D-3	Ⓕ	CP7008	C-3	Ⓕ
IC2501	D-2	TC4274	D-9	Ⓕ	TL5204	C-3	Ⓕ	CP7009	C-3	Ⓕ
IC2511	D-2	TC4275	D-9	Ⓕ	TL5205	D-3	Ⓕ	CP7010	C-3	Ⓕ
IC3001	C-6	TC4276	D-9	Ⓕ	TL5206	D-4	Ⓕ	CP7011	C-1	Ⓕ
IC3051	D-11	TC4277	D-9	Ⓕ	TL5207	D-4	Ⓕ	CP7012	B-6	Ⓕ
IC3061	D-10	TC4278	D-9	Ⓕ	TL5208	D-4	Ⓕ	CP7013	B-6	Ⓕ
IC3201	E-10	TC4279	D-9	Ⓕ	TP6201	A-4	Ⓕ	CP7014	B-6	Ⓕ
IC3251	E-11	TC4280	D-9	Ⓕ	TP6202	A-4	Ⓕ	CP7015	C-3	Ⓕ
IC4201	A-11	TC4281	D-9	Ⓕ	TP6203	A-3	Ⓕ	CP7016	C-3	Ⓕ
IC4211	A-10	TC4282	D-9	Ⓕ	TP6251	B-1	Ⓕ	Diodes		
IC4221	A-10	TC4283	D-9	Ⓕ	TP6252	E-8	Ⓕ	D2001	C-2	Ⓕ
IC4231	B-7	TC4284	D-9	Ⓕ	TP6253	D-8	Ⓕ	D3001	C-5	Ⓕ
IC4232	B-7	TC4285	E-9	Ⓕ	TP6501	C-6	Ⓕ	D6311	A-4	Ⓕ
IC4241	B-10	TC4286	E-9	Ⓕ	TP7001	D-5	Ⓕ	D6312	A-4	Ⓕ
IC5201	D-4	TC4287	E-9	Ⓕ	TP7002	C-5	Ⓕ	D6601	B-6	Ⓕ
IC6201	A-4	TC4288	B-9	Ⓕ	TP7004	C-5	Ⓕ	D6602	B-6	Ⓕ
IC6301	B-15	TC5201	E-13	Ⓕ	TP7006	C-5	Ⓕ	Filters		
IC6311	B-2	TC5202	E-13	Ⓕ	Adjustments			FL6251	E-5	Ⓕ
IC6312	A-14	TC5203	E-13	Ⓕ	VR3231	E-7	Ⓕ	FL6252	D-5	Ⓕ
IC6503	B-12	TC5204	E-13	Ⓕ	VR3232	D-7	Ⓕ	FL6253	D-5	Ⓕ
IC6505	C-12	TC5205	E-13	Ⓕ	VR3233	D-7	Ⓕ	FL6254	D-5	Ⓕ
IC6507	B-11	TC5206	E-13	Ⓕ	Connectors			X'tal Oscillators		
IC6508	B-11	TC5207	E-13	Ⓕ	FP2501	E-2	Ⓕ	X6601	C-5	Ⓕ
IC6601	A-12	TC5208	E-13	Ⓕ	FP4201	B-8	Ⓕ	X6602	B-6	Ⓕ
IC6602	B-11	TC5209	E-13	Ⓕ	FP4203	D-8	Ⓕ	X6603	C-5	Ⓕ
IC6603	D-12	TC5210	E-13	Ⓕ	FP5201	E-4	Ⓕ			
IC6604	A-12	TC5211	E-13	Ⓕ	FP6201	A-2	Ⓕ			
IC6607	C-10	TC5212	E-13	Ⓕ	P4251	B-8	Ⓕ			
IC7001	C-4	TC5214	E-13	Ⓕ	P6251	E-5	Ⓕ			
IC7051	C-14	TC5215	E-14	Ⓕ	Check Points					
		TC5216	E-14	Ⓕ	CP2001	B-2	Ⓕ			
		TC5217	E-14	Ⓕ	CP2002	B-2	Ⓕ			
		TC5218	E-14	Ⓕ	CP2003	B-2	Ⓕ			
		TC5219	E-14	Ⓕ	CP2004	B-2	Ⓕ			
		TC5220	E-14	Ⓕ	CP2005	B-2	Ⓕ			
		TC5221	E-14	Ⓕ	CP2006	B-2	Ⓕ			
		TC5222	E-14	Ⓕ	CP2007	D-1	Ⓕ			
		TC5223	E-14	Ⓕ	CP2008	D-1	Ⓕ			
		TC5224	E-14	Ⓕ	CP2009	C-1	Ⓕ			
		TC5225	E-14	Ⓕ	CP2016	C-2	Ⓕ			
		TC5226	D-15	Ⓕ	CP2017	B-3	Ⓕ			
		TC5227	E-15	Ⓕ	CP2019	C-2	Ⓕ			
		TC5228	E-15	Ⓕ	CP2501	D-1	Ⓕ			
		TC5229	E-15	Ⓕ	CP3001	C-6	Ⓕ			
		TC5230	E-13	Ⓕ	CP3002	C-6	Ⓕ			
		TC5231	D-14	Ⓕ	CP3003	C-6	Ⓕ			
		TC5232	D-14	Ⓕ	CP3004	C-6	Ⓕ			
		TC5233	D-14	Ⓕ	CP3005	C-6	Ⓕ			
		TC5234	D-13	Ⓕ	CP3006	B-6	Ⓕ			
		TC5235	D-14	Ⓕ	CP3007	B-6	Ⓕ			
		TC5236	D-13	Ⓕ	CP3008	B-6	Ⓕ			
		TC5237	A-16	Ⓕ	CP3009	B-6	Ⓕ			
		TC6201	A-15	Ⓕ	CP3010	B-6	Ⓕ			
		TC6202	A-15	Ⓕ	CP3011	B-6	Ⓕ			
		TC6203	A-15	Ⓕ	CP3012	B-6	Ⓕ			
		TC6204	A-15	Ⓕ	CP3013	B-6	Ⓕ			
		TC6205	A-15	Ⓕ	CP3014	B-6	Ⓕ			
		TC6206	A-15	Ⓕ	CP3015	B-6	Ⓕ			
		TC6207	A-15	Ⓕ	CP3016	B-6	Ⓕ			
		TC6208	A-15	Ⓕ	CP3017	B-6	Ⓕ			
		TC6209	A-15	Ⓕ	CP3020	C-7	Ⓕ			
		TC6210	A-15	Ⓕ	CP5201	D-3	Ⓕ			
		TC6211	A-15	Ⓕ	CP5202	D-3	Ⓕ			
		TC6212	A-14	Ⓕ	CP5203	D-3	Ⓕ			
		TC6213	A-14	Ⓕ	CP5204	D-3	Ⓕ			
		TC6214	E-12	Ⓕ	CP5205	D-4	Ⓕ			
		TC6215	E-12	Ⓕ	CP5206	D-4	Ⓕ			
		TC6216	E-12	Ⓕ	CP5207	D-4	Ⓕ			
		TC6217	E-12	Ⓕ						
		TC6218	E-12	Ⓕ						
		TC6219	E-12	Ⓕ						
		TC6220	E-12	Ⓕ						
		TC6221	E-12	Ⓕ						
		TC6222	E-12	Ⓕ						
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		TC6302	E-12	Ⓕ						
		TC6303	E-12	Ⓕ						
		TC6304	E-12	Ⓕ						
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		TC6306	E-12	Ⓕ						
		TC6307	E-12	Ⓕ						

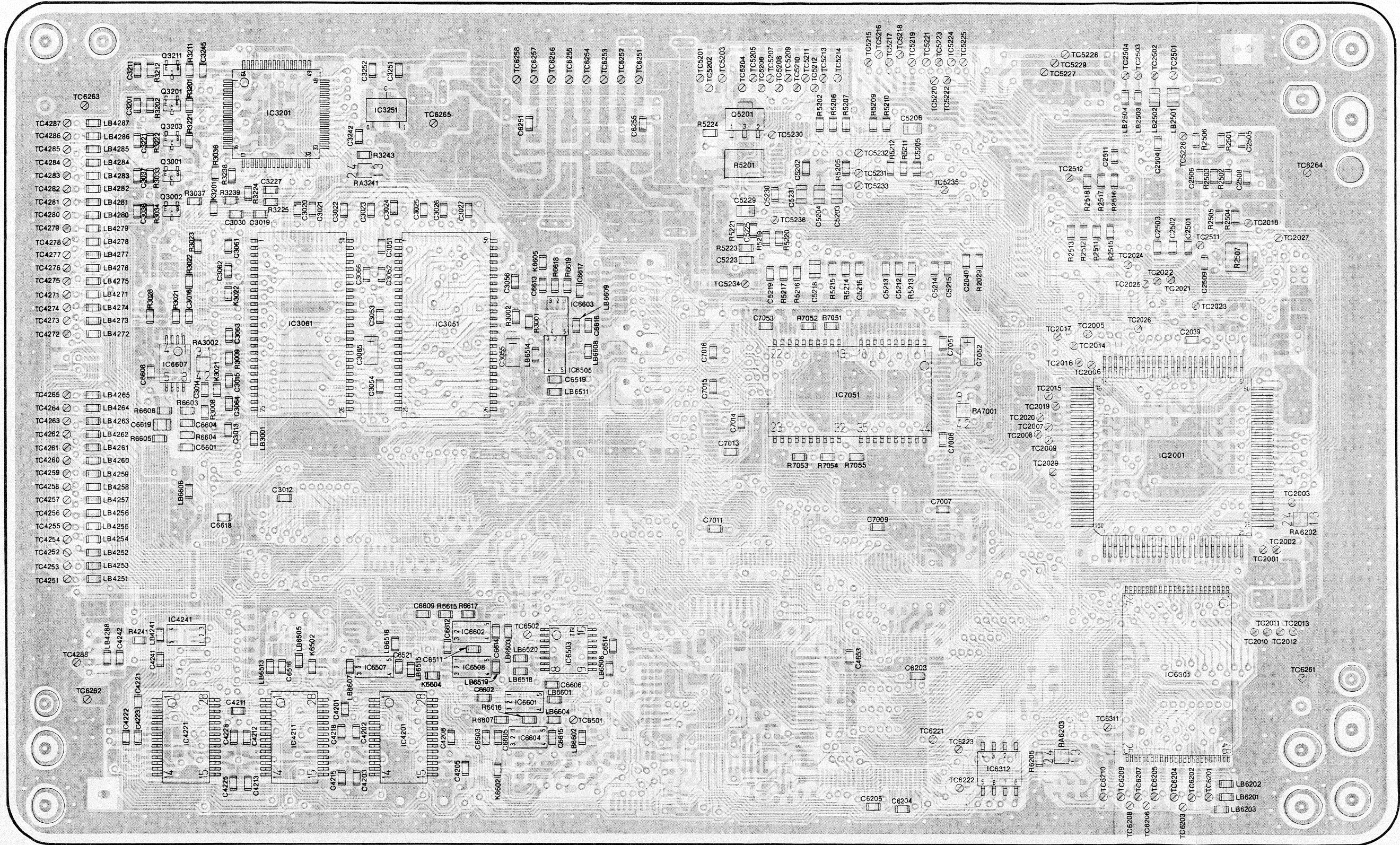
ADDRESS INFORMATION
 (C)... COMPONENT SIDE
 (F)... FOIL SIDE



2-17. MAIN P.W.B.(VEP96512F)

MAIN P.W.B. (1/2)







(FOIL SIDE)

16

2-18. POWER SUPPLY P.W.B.(VEP91231A)

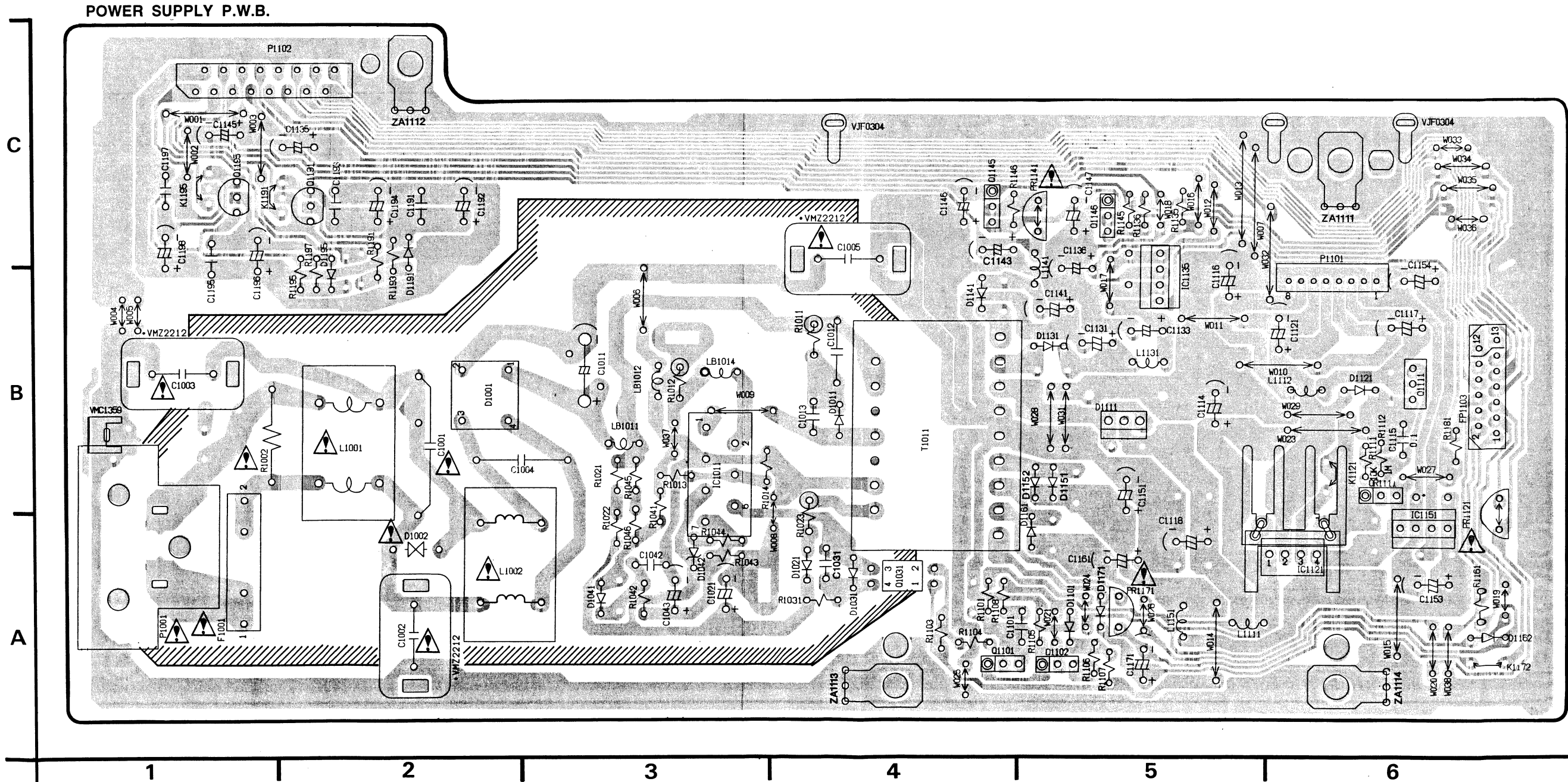
CAUTION

THE RED MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT. PAY ATTENTION NOT TO RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

- 1. Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.
- 2.  High voltage is applied here. Pay extreme atention, when replacing.
- 3. When servicing , remove the power cord from the power outlet.
- 4. When replacing any components, confirm the correct part number with the parts list.

POWER SUPPLY P.W.B.					
Transistors		P1101	C-6	D1171	A-5
Q1031	A-4	P1102	C-1	D1191	B-2
Q1101	A-4	FP1103	B-6	D1195	C-2
Q1102	A-5	Diodes		Fuse	
Q1111	B-6	D1001	B-2	F1001	A-1
Q1145	C-4	D1002	A-2	Protectors	
Q1146	C-5	D1011	B-4	PR1121	B-6
Q1191	C-2	D1021	A-4	PR1141	C-5
Q1195	C-1	D1031	A-4	PR1171	A-5
Transistor-Resistor		D1041	A-3	Transformer	
QR1111	B-6	D1042	A-3	T1011	B-4
Integrated Circuits		D1101	A-5		
IC1011	B-3	D1111	B-5		
IC1121	A-6	D1121	B-6		
IC1135	B-5	D1131	B-5		
IC1151	B-6	D1141	B-4		
Connectors		D1151	B-5		
P1001	A-1	D1152	B-5		
		D1161	B-5		
		D1162	A-6		

ADDRESS INFORMATION



2-19. OPERATION P.W.B.(VEP96530A), VOLUME P.W.B.(VEP94320A), HP JACK P.W.B.(VEP94321A) AND COAXIAL P.W.B.(VEP94322A)

OPERATION P.W.B.			
Transistor-Resistors		Connectors	
QR6001	A-5	FP6001	A-1
QR6002	C-3	FP6002	C-12
QR6003	C-3	X'tal Oscillator	
QR6043	C-9		
Integrated Circuits		X6001	B-5
IC6001	B-4	Diodes	
IC6002	B-11		
IC6003	C-3	D6002	B-12
Switches		D6003	B-12
		D6004	B-12
		D6005	B-12
		D6008	C-6
		D6043	C-12
		D6191	B-6
S6001	B-4		
S6002	C-5		
S6003	B-12		
S6004	B-3		
S6005	B-3		
S6008	B-3		
S6009	A-3		
S6010	B-4		
S6041	B-1		

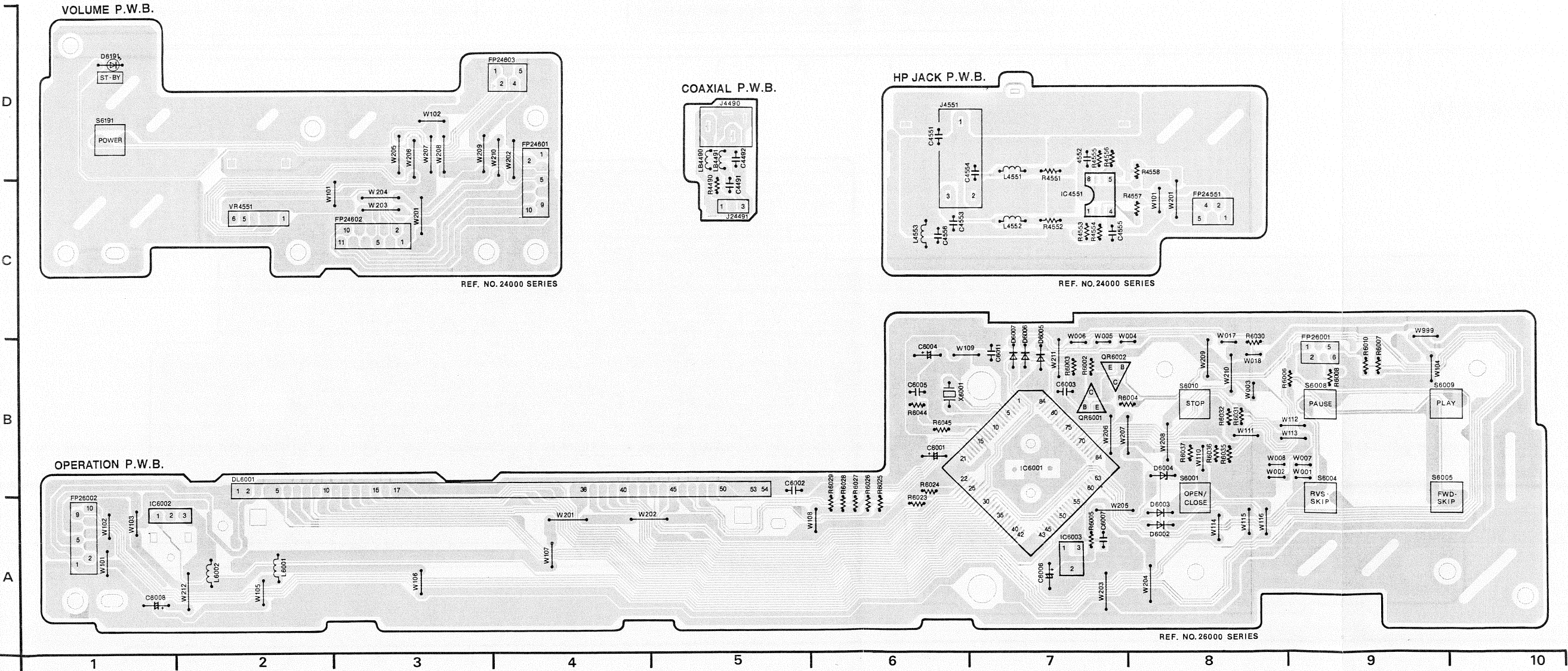
ADDRESS INFORMATION

VOLUME P.W.B.	
Adjustment	
VR4551	E-1
Connectors	
FP4601	D-4
FP4602	D-3
JA	D-2
Switch	
S6191	D-1

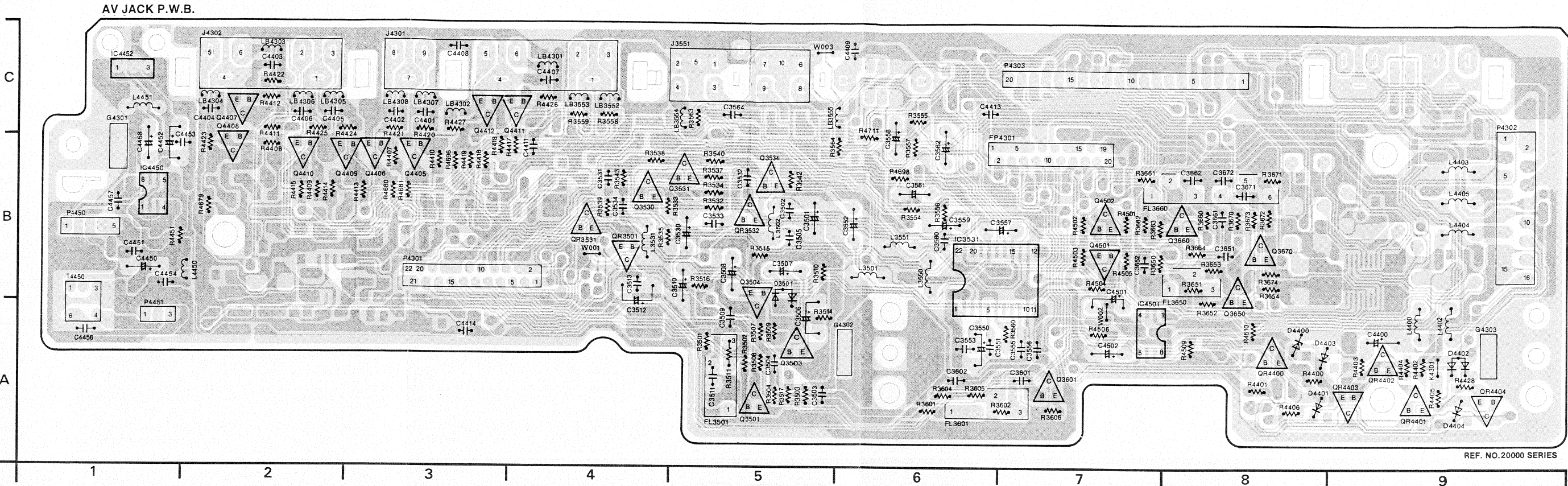
ADDRESS INFORMATION

HEADPHONE JACK P.W.B.	
Integrated Circuit	
IC4551	E-6
Jack	
J4551	E-6

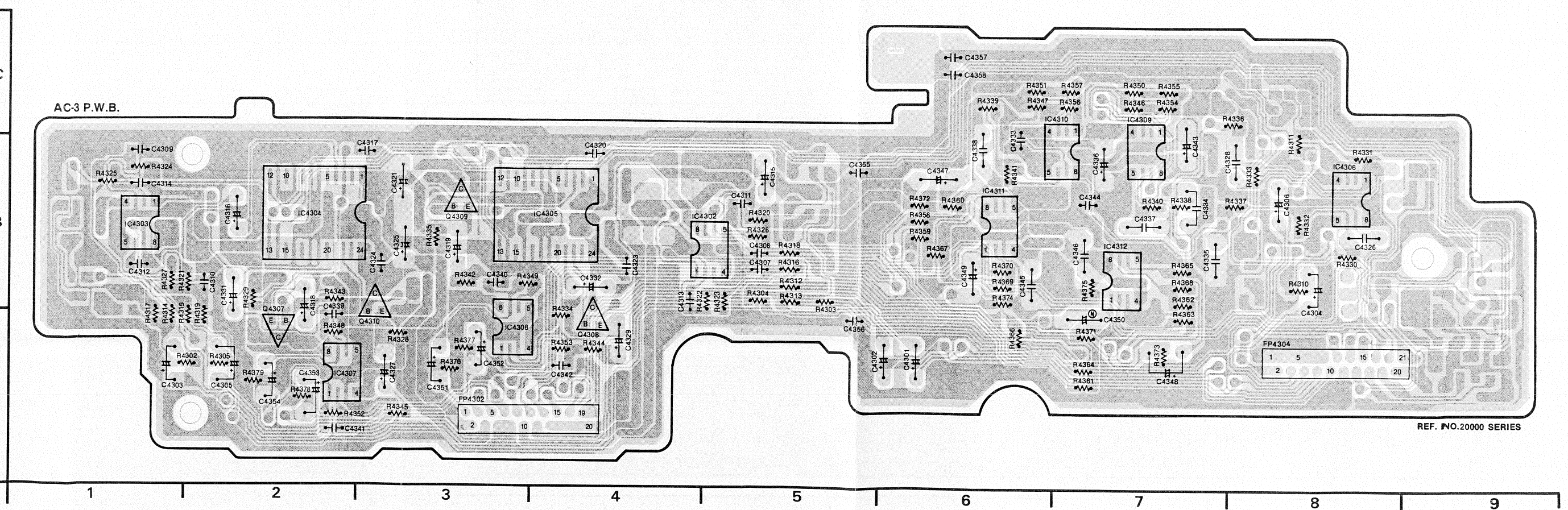
ADDRESS INFORMATION



2-20. AV JACK P.W.B.(VEP93304B)



2-21. AC-3 C.B.A. (VEP94304A)



AV (REAR) JACK P.W.B.					
Transistors		Transistor-Resistors		Jacks	
Q3501	A-5	QR3501	B-4	J3551	C-5
Q3503	A-5	QR3531	B-4	J4301	C-3
Q3504	B-5	QR3532	B-5	J4302	C-2
Q3530	B-4	QR4400	A-8	Filters	
Q3531	B-5	QR4401	A-9		
Q3534	B-5	QR4402	A-9	FL3501	A-5
Q3601	A-7	QR4403	A-9	FL3601	A-6
Q3650	B-8	QR4404	A-9	FL3650	B-8
Q3660	B-8	Integrated Circuits		FL3660	B-8
Q3670	B-8				
Q4405	B-3	IC3531	B-6	Diodes	
Q4406	B-3	IC4450	B-1		
Q4407	C-2	IC4452	C-1	D3501	B-5
Q4408	B-2	IC4501	A-7	D4400	A-8
Q4409	B-3	Connectors		D4401	A-8
Q4410	B-2				
Q4411	C-4	FP4301	B-7	D4402	A-9
Q4412	C-3	P4301	B-3	D4403	A-8
Q4501	B-7	P4302	B-9	D4404	A-9
Q4502	B-7	P4303	C-7		
		P4450	B-1		
		P4451	A-1		

ADDRESS INFORMATION

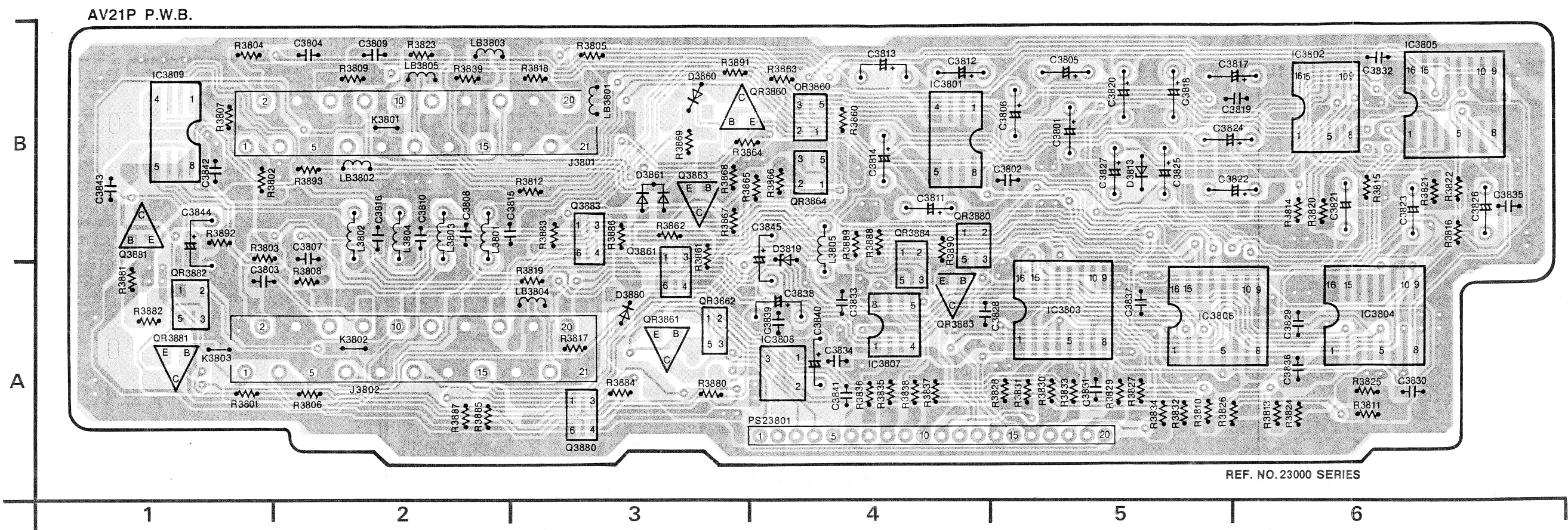
AC-3 P.W.B.				
Transistors		IC24306 IC24307 IC24308 IC24309 IC24310 IC24311 IC24312	B-8	
Q24307	A-1		A-2	
Q24308	A-4		B-3	
Q24309	B-3		B-7	
Q24310	A-3		B-6	
			B-6	
Integrated Circuits		Connectors FP24302 FP24304	B-7	
IC24302	B-4		A-3	
IC24303	B-1		A-8	
IC24304	B-2			
IC24305	B-4			

ADDRESS INFORMATION

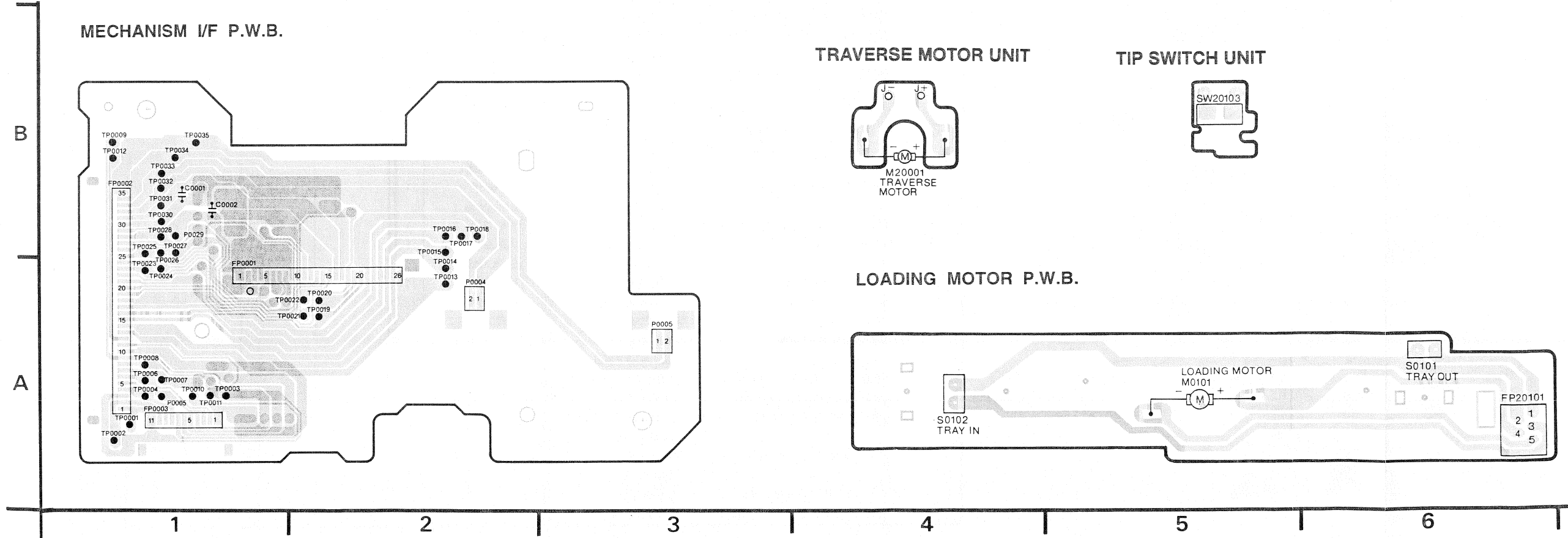
AV21P P.W.B.			
Transistors		IC3803	A-5
Q3860	A-4	IC3804	A-6
Q3861	A-3	IC3805	B-6
Q3863	B-2	IC3806	A-5
Q3880	A-2	IC3807	A-4
Q3881	B-1	IC3808	A-4
Q3883	B-3	IC3809	B-1
Transistor-Resistors		Connector	
QR3860	B-4	PS3801	A-1
QR3861	A-3	Diodes	
QR3862	A-3	D3860	B-3
QR3864	B-4	D3861	B-3
QR3880	B-4	D3880	A-3
QR3881	A-1	Jacks	
QR3882	A-1	J3801	B-3
QR3883	A-4	J3802	A-2
QR3884	A-4		
Integrated Circuits			
IC3801	B-1		
IC3802	B-6		

ADDRESS INFORMATION

2-22. AV21P P.W.B. (VEP93305A)



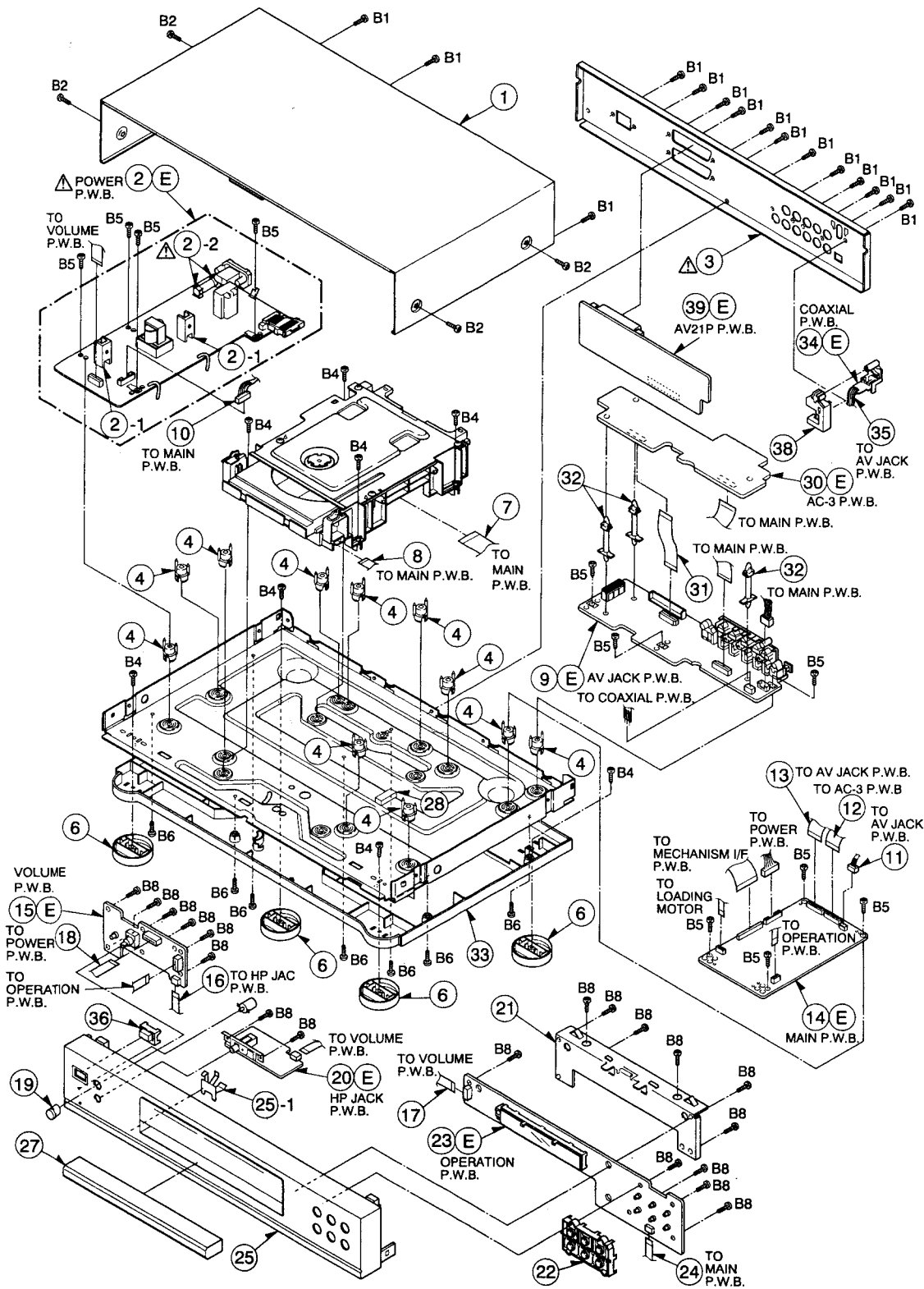
2-23. MECHANISM IF P.W.B. (VEP90367A), TRAVERSE MOTOR U. (VXQ0588), LOADING MOTOR P.W.B. (VEK8001) AND TIP SW U. (VEK8061)



SECTION 3
EXPLODED VIEWS & REPLACEMENT PARTS LIST

3-1. Casing Parts & Mechanism Section

3-1-1. Casing Parts & Mechanism Section Exploded View

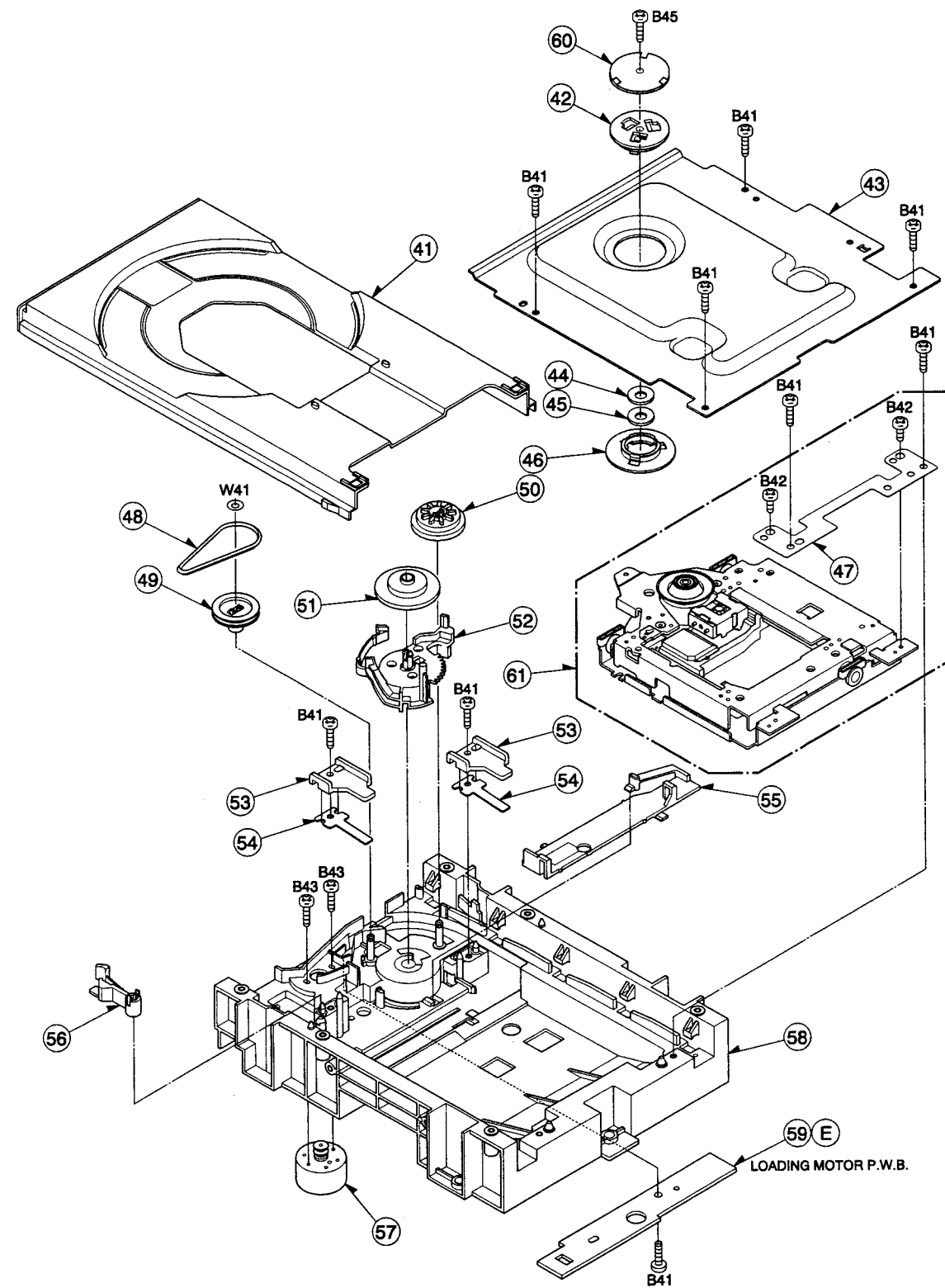


3-1-2. Casing Parts & Mechanism Section Parts List

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
1	9MV GM13 96	Top cover	VGM1396 Black model	1	36	9MV GU75 43	Power button	VGU7543 Black model	1
1	9MV GM13 93	Top cover	VGM1393 Gold model	1	36	9MV GU75 42	Power button	VGU7542 Gold model	1
2	928 0116 003	Power supply P.W.B.	VEP91231A	1	38	9MV GQ47 18	Jack holder	VGQ4718	1
2-1	9MV SC30 76	Heat sink	VSC3076	2	39	928 0116 809	AV 21P P.W.B.	VEP93305A	1
2-2	9ME YF52 BC	Fuse holder	EYF52BC	2					
3	9MV MA99 63	Rear panel	VMA9963	1	B1	9MV HD06 90	Screw	VHD0690	15
4	9MV MP51 91	P.C. board spacer	VMP5191	11	B2	9MV HD10 41	Screw	VHD1041	4
6	9MV YK76 48	Leg	VYK7648	4	B4	928 0038 152	Screw	XTV3+10J	8
7	9MV WJ11 18	35P flexible cable	VWJ1118	1	B5	928 0081 507	Screw	XYE3+EJ14	11
8	9MV WJ11 15	5P flexible cable	VWJ1115	1	B6	928 0114 704	Screw	XTW3+10TFZ	7
9	928 0116 100	AV jack P.W.B.	VEP93304B	1	B8	928 0012 000	Screw	XTV3+10G	19
10	9MV EEOC 36	8 Pin cable	VEE0C36	1					
11	9MV EEOC 37	Shield cable	VEE0C37	1					
12	928 0110 575	21P flexible cable	VWJ21D1070MM	1					
13	928 0110 588	22P flexible cable	VWJ22D1070MM	1					
14	928 0116 207	Main P.W.B.	VEP96512T	1					
15	928 0116 304	Volume P.W.B.	VEP94320A	1					
16	928 0110 591	5P flexible cable	VWJ05TW090BB	1					
17	928 0067 505	10P flexible cable	VWJ10A0060BB	1					
18	928 0115 606	11P flexible cable	VWJ11A0060BB	1					
19	9MV GU73 96	Volume knob	VGU7396 Black model	1					
19	9MV GU75 46	Volume knob	VGU7546 Gold model	1					
20	928 0116 401	Headphone jack P.W.B.	VEP94321A	1					
21	9MV MA95 57	Front angle	VMA9557	1					
22	9MV GU75 45	Operation button	VGU7545 Black model	1					
22	9MV GU75 44	Operation button	VGU7544 Gold model	1					
23	928 0116 508	Operation P.W.B.	VEP96530A	1					
24	9MV WJ12 41	Flexible cable	VWJ1241	1					
25	9MV YP68 56	Front panel	VYP6856 Black model	1					
25	9MV YP68 57	Front panel	VYP6857 Gold model	1					
25-1	9MV MC13 43	Ground terminal	VMC1343	1					
27	9MV GK22 70	Tray top	VGK2270 Black model	1					
27	9MV GK22 69	Tray top	VGK2269 Gold model	1					
28	9MV MT05 45	Spacer	VMT0545	1					
29	9MV GL07 42	Holder	VGL0742	1					
30	928 0116 605	AC-3 P.W.B.	VEP94304A	1					
31	928 0081 002	20P Flexible cable	VWJ20D1100MM	1					
32	9MV MX20 01	P.C. board spacer	VMX2001	1					
33	9MV KM49 79	Bottom cover	VKM4979 Black model	1					
33	9MV KM49 20	Bottom cover	VKM4920 Gold model	1					
34	928 0116 702	Coaxial P.W.B.	VEP94322A	1					
35	928 0114 500	3P Flexible cable	VWJ03D5060QV	1					

3-2. Loading Mechanism Section

3-2-1. Loading Mechanism Section Exploded View



3-2-2. Loading Mechanism Section Parts List

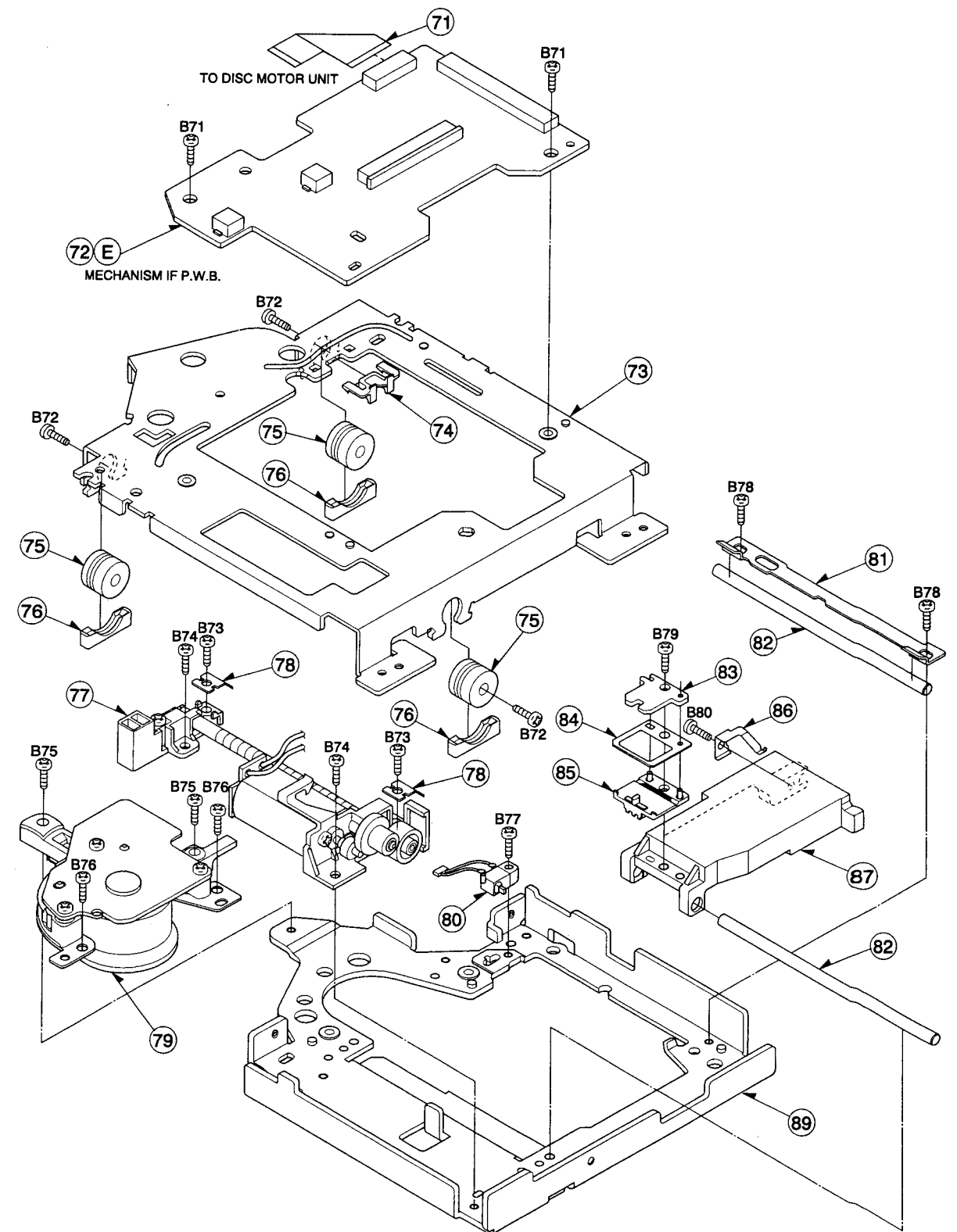
Ref. No.	Part No.	Part Name	Remarks	Q'ty
41	9MV MD26 43	Tray	VMD2643	1
42	9MV MD26 40	Clamper holder	VMD2640	1
43	9MV MA95 34	Clamper plate	VMA9534	1
44	9MV MA95 35	Clamper back yoke	VMA9535	1
45	9MV SQ10 02	Clamper magnet	VSQ1002	1
46	9MV MD26 39	Clamper	VMD2639	1
47	9MV MC12 64	Support spring	VMC1264	1
48	9MV DV03 73	Square belt	VDV0373	1
49	9MV DG12 29	Pulley gear	VDG1229	1
50	9MV DG12 31	Tray gear	VDG1231	1
51	9MV DG12 27	Rotation gear	VDG1227	1
52	9MV DK01 50	Rotary cam	VDK0150	1
53	9MV MA95 72	Chassis stopper	VMA9572	2
54	9MV MC12 67	Chassis holder	VMC1267	2
55	9MV MD26 41	Slider	VMD2641	1
56	9MV MD26 42	Switch lever	VMD2642	1
57	9MV EM06 09	Loading motor unit	VEM0609	1
58	9MV MD26 83	Loading base	VMD2683	1
59	9MV EK80 01	Loading motor P.W.B.	VEK8001	1
60	9MV MA96 95	Clamper weight	VMA9695	1
61	9MV XK13 63	Traverse unit	VXK1363	1
B41	928 0067 819	Screw	XTV26+8G	9
B42	928 0067 806	Screw	XYC26+BF5FZN	2
B43	928 0067 822	Screw	XQNQC17+3	2
B45	928 0067 848	Screw	XTS26+6J	1
W41	9MV MX26 41	Washer	VMX2641	1

3-3. Traverse Section

3-3-1. Traverse Section Parts List

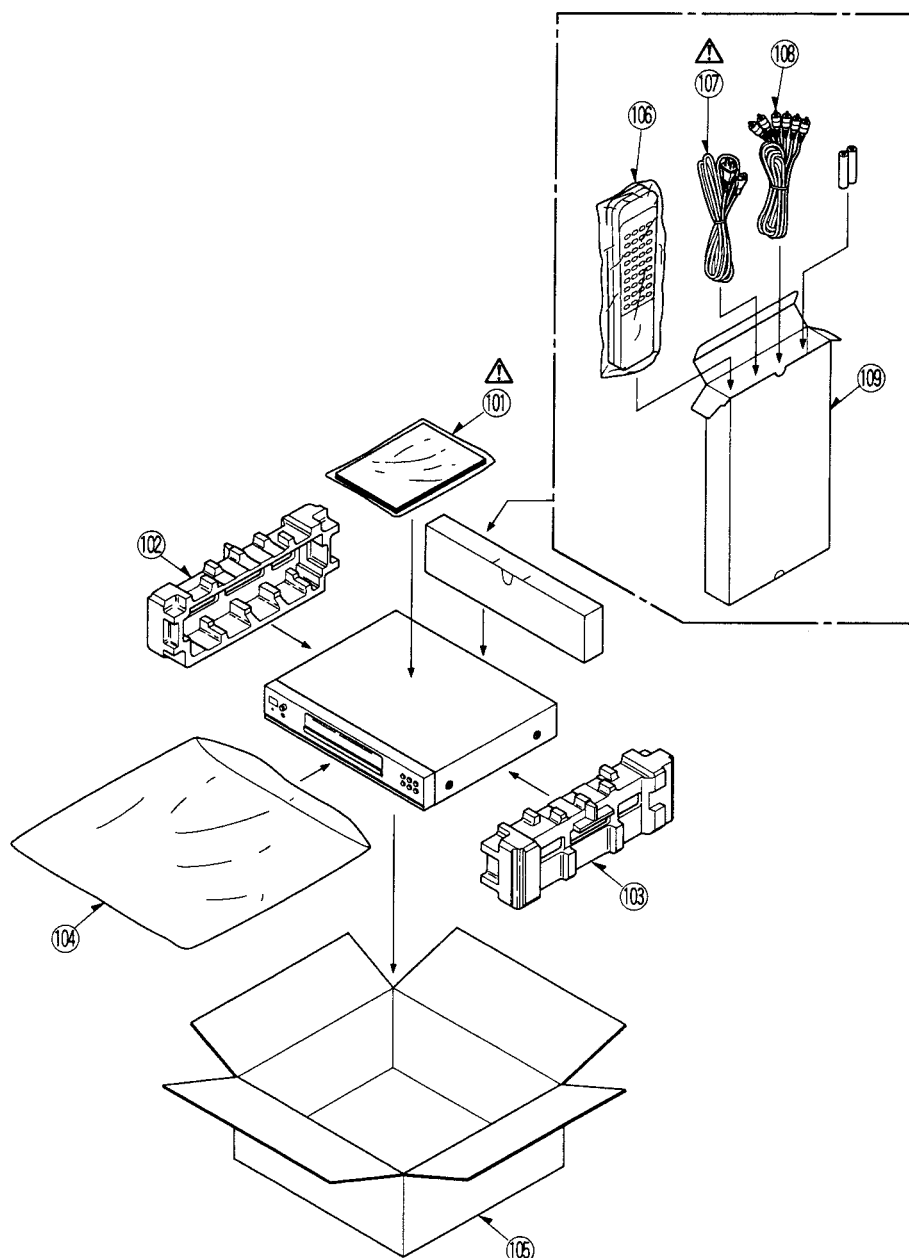
Ref. No.	Part No.	Part Name	Remarks	Q'ty
71	9MV WJ11 16	11P Flexible cable	VWJ1116	1
72	928 0090 608	Mechanism IF P.W.B.	VEP90367A	1
73	9MV XA57 86	D Chassis unit	VXA5786	1
74	9MV MD26 82	Switch clasper	VMD2682	1
75	9MV MG10 01	Damper	VMG1001	3
76	9MV MD26 75	Damper holder	VMD2675	3
77	9MV XQ05 88	Traverse motor unit	VXQ0588	1
78	9MV MC12 62	Main shaft holder	VMC1262	2
79	9MV XA60 65	Disk motor unit	VXA6065	1
80	9MV EK80 61	Tip switch unit	VEK8061	1
81	9MV MC12 60	Sub shaft holder	VMC1260	1
82	9MV MS60 98	Guide shaft	VMS6098	2
83	9MV MA95 32	Nut stopper	VMA9532	1
84	9MV MC12 63	Nut hold spring	VMC1263	1
85	9MV MD26 37	Screw nut	VMD2637	1
86	9MV MC12 65	PU over pressure spring	VMC1265	1
87	9MV ED03 78	Optical pick up unit	VED0378	1
89	9MV MK04 33	H Chassis	VMK0433	1
B71	928 0068 009	Screw	XTB26+5F	2
B72	9MV HD10 32	Screw	VHD1032	3
B73	928 0068 012	Screw	XYC2+JF10	2
B74	928 0068 025	Screw	XYN2+J4	2
B75	928 0068 038	Screw	XVE26B10FP	2
B76	928 0068 041	Screw	XYC2+JF5	2
B77	928 0068 054	Screw	XYN2+J8	1
B78	928 0068 067	Screw	XSN2+3	2
B79	928 0068 070	Screw	XQN17+C5	1
B80	9MV HD10 57	Screw	VHD1057	1

3-3-2. Traverse Section Exploded View



3-4. Packing & Accessories Section

3-4-1. Packing & Accessories Section Exploded View



3-4-2. Packing & Accessories Section Parts List

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
⚠ 101	9MV QT74 77	Operating instructions	VQT7477	1	105	9MV PG94 25	Packing case	VPG9425 Gold model	1
102	9MV PN48 65	Cushion (L)	VPN4865	1	106	9MV EQ21 03	Remote control unit	VEQ2103	1
103	9MV PN48 66	Cushion (R)	VPN4866	1	⚠ 107	9MV JA06 64	AC cord	VJA0664	1
104	9MV PF07 31	Polyethylene bag	VPF0731	1	108	9MV JA07 88	AV cord	VJA0788	1
105	9MV PG93 94	Packing case	VPG9394 Black model	1	109	9MV PK21 20	Accessory case	VPK2120	1

NOTE FOR PARTS LIST

- Part indicated with the mark "⊕" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "I" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film $\pm 5\%$, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol  have critical characteristics.

Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN 14K 2E 182 G FR
 Type Shape Power Resist- Allowable Others
 ance error

RD : Carbon	2B : 1/8W	F : $\pm 1\%$	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : $\pm 2\%$	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : $\pm 5\%$	NB : Non-burning type
RW : Winding	3A : 1W	K : $\pm 10\%$	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : $\pm 20\%$	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

* Resistance

1 8 2 \Rightarrow 1800 ohm = 1.8 kohm
 Indicates number of zeros after effective number.
 2-digit effective number.

• Units: ohm

1 R 2 \Rightarrow 1.2 ohm
 1-digit effective number.
 2-digit effective number, decimal point indicated by R.

• Units: ohm

● Capacitors

Ex.: CE 04W 1H 2R2 M BP
 Type Shape Dielectric Capacity Allowable Others
 performance strength error

CE : Aluminum foil electrolytic	0J : 6.3V	F : $\pm 1\%$	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : $\pm 2\%$	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : $\pm 5\%$	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : $\pm 10\%$	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : $\pm 20\%$	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : $+80\%$	U : UL part
CP : Oil	2A : 100V	-20%	C : CSA part
CM : Mica	2B : 125V	P : $+100\%$	W : UL-CSA type
CF : Metallized	2C : 160V	-0%	F : Lead wire forming
CH : Metallized	2D : 200V	C : $\pm 0.25\text{pF}$	
	2E : 250V	D : $\pm 0.5\text{pF}$	
	2H : 500V	= : Others	
	2J : 630V		

* Capacity (electrolyte only)

2 2 2 \Rightarrow 2200 μF
 Indicates number of zeros after effective number.
 2-digit effective number.

• Units: μF .

2 R 2 \Rightarrow 2.2 μF
 1-digit effective number.
 2-digit effective number, decimal point indicated by R.

• Units: μF .

* Capacity (except electrolyte)

2 2 2 \Rightarrow 2200pF=0.0022 μF
 (More than 2)—Indicates number of zeros after effective number.
 2-digit effective number.

• Units: μF .

2 2 1 \Rightarrow 220pF
 (0 or 1)—Indicates number of zeros after effective number.
 2-digit effective number.

• Units: pF.

• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

● About Ref No. in the Parts List of P.W.B.

As the first numeric (2) in "Ref No." represents a series, the numerics from the 2nd to 5th digit correspond with the Ref No. in circuit diagram or P.W.B.

(e. g., List Ref No. C22001=Ref No. C2001 in Circuit Diagram)

PARTS LIST OF P.W.B. UNIT MAIN P.W.B.

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP				RESISTORS GROUP			
IC22001	928 0092 101	IC MN67702VRZC		R22002		Carbon chip 22kohm 1/16W	ERJ3GEYJ223
IC22501	928 0092 208	IC BA6849FP		R22003		Carbon chip 10kohm 1/16W	ERJ3GEYJ103
IC22511	928 0092 305	IC AN8813NSBS		R22004		Carbon chip 2kohm 1/16W	ERJ3GEYJ202
IC23001	928 0092 402	IC MN67750EXA		R22005		Carbon chip 100ohm 1/16W	ERJ3GEYJ101
IC23051	928 0092 606	IC T591616AFT12		R22006		Carbon chip 27kohm 1/16W	ERJ3GEYJ273
IC23061	928 0110 106	IC HM5241605T12		R22007		Carbon chip 8.2kohm 1/16W	ERJ3GEYG822
IC23201	928 0110 203	IC MC44724VFU		R22008		Carbon chip 27kohm 1/16W	ERJ3GEYJ273
IC23251	928 0068 708	IC AN78L05M		R22009		Carbon chip 18kohm 1/16W	ERJ3GEYJ183
IC24201	928 0092 703	IC PCM1716E		R22010		Carbon chip 33kohm 1/16W	ERJ3GEYJ333
IC24211	928 0092 703	IC PCM1716E		R22011		Carbon chip 27kohm 1/16W	ERJ3GEYJ273
IC24221	928 0092 703	IC PCM1716E		R22012~14		Carbon chip 6.8kohm 1/16W	ERJ3GEYG682
IC24231	928 0092 800	IC NJU3711M		R22015,16		Carbon chip 5.6kohm 1/16W	ERJ3GEYJ562
IC24232	928 0110 300	IC TC7W32FU		R22018~23		Carbon chip 5.6kohm 1/16W	ERJ3GEYJ562
IC24241	928 0069 600	IC TC7ST04FU		R22027		Carbon chip 5.6kohm 1/16W	ERJ3GEYJ562
IC25201	928 0093 207	IC AN8825NFHQ-V		R22028		Carbon chip 1.2kohm 1/16W	ERJ3GEYJ122
IC26201	928 0093 304	IC MN102L25ZN2		R22029		Carbon chip 5.1kohm 1/16W	ERJ3GEYF512
IC26301	928 0093 401	IC TC58F400FTA		R22501		Carbon chip 270ohm 1/16W	ERJ3GEYJ271
IC26311	928 0110 407	IC PST9142NR		R22502,03		Carbon chip 10kohm 1/16W	ERJ3RBD103
IC26312	928 0093 508	IC X25C02ST2		R22504,05		Carbon chip 22kohm 1/16W	ERJ3RBD223
IC26503	928 0093 702	IC TCVHC157FTEL		R22506		Carbon chip 270ohm 1/16W	ERJ3GEYJ271
IC26505	928 0069 202	IC TC7SHU04FU		R22507		Carbon chip 0.39ohm 1/16W	ERJ14YKR39
IC26507,08	928 0069 202	IC TC7SHU04FU		R22511~13		Carbon chip 6.8kohm 1/16W	ERJ3GEYG682
IC26601~04	928 0069 202	IC TC7SHU04FU		R22514		Carbon chip 56kohm 1/16W	ERJ3GEYJ563
IC26607	928 0056 105	IC NJM2115V		R22515		Carbon chip 12kohm 1/16W	ERJ3RBD123
IC27001	928 0093 809	IC MN103005AN2G		R22516,17		Carbon chip 47kohm 1/16W	ERJ3RBD473
IC27051	928 0093 906	IC M4V4265CT7ST		R22518		Carbon chip 12kohm 1/16W	ERJ3RBD123
Q23001,02	928 0094 604	Transistor 2SB1218A-R		R23001		Carbon chip 22ohm 1/16W	ERJ3GEYJ220
Q23201	928 0094 604	Transistor 2SB1218A-R		R23002		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
Q23202	928 0094 604	Transistor 2SB1218A-R		R23003		Carbon chip 3.9kohm 1/16W	ERJ3GEYJ392
Q23211	928 0094 604	Transistor 2SB1218A-R		R23005		Carbon chip 10kohm 1/16W	ERJ3GEYJ103
Q25201	928 0072 600	Transistor 2SB1115-T		R23007		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
QR26311	928 0072 804	Transistor-resistor UN5212		R23009		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
D22001	928 0090 705	Diode MA111		R23021		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
D23001	928 0090 802	Diode MA8030-H		R23022		Carbon chip 1.5kohm 1/16W	ERJ3GEYG152
D23002	928 0090 705	Diode MA111		R23023		Carbon chip 820ohm 1/16W	ERJ3GEYJ821
D26311,12	928 0090 909	Diode MA728		R23028		Carbon chip 1kohm 1/16W	ERJ3GEYG102
D26601,02	928 0110 009	Diode MA304		R23030		Carbon chip 1kohm 1/16W	ERJ3GEYG102
				R23033,34		Carbon chip 1kohm 1/16W	ERJ3GEYG102
				R23036,37		Carbon chip 33ohm 1/16W	ERJ3GEYJ330
				R23201		Carbon chip 100ohm 1/16W	ERJ3GEYF101
				R23202		Carbon chip 1kohm 1/16W	ERJ3GEYG102
				R23203		Carbon chip 100ohm 1/16W	ERJ3GEYJ101
				R23211		Carbon chip 100ohm 1/16W	ERJ3GEYJ101
				R23212		Carbon chip 1kohm 1/16W	ERJ3GEYG102
				R23213		Carbon chip 100ohm 1/16W	ERJ3GEYJ101
				R23221		Carbon chip 100ohm 1/16W	ERJ3GEYF101
				R23222		Carbon chip 1kohm 1/16W	ERJ3GEYG102
				R23223~25		Carbon chip 100ohm 1/16W	ERJ3GEYJ101

Ref. No.	Part No.	Part Name	Remarks
R23230		Carbon chip 1Mohm 1/16W	ERJ3GEYJ105
R23231		Carbon chip 1kohm 1/16W	ERJ3GEYG102
R23232		Carbon chip 330ohm 1/16W	ERJ3GEYJ331
R23233		Carbon chip 3.3kohm 1/16W	ERJ3GEYG332
R23234		Carbon chip 330ohm 1/16W	ERJ3GEYJ331
R23235		Carbon chip 3.3kohm 1/16W	ERJ3GEYG332
R23236		Carbon chip 1kohm 1/16W	ERJ3GEYG102
R23237		Carbon chip 1Mohm 1/16W	ERJ3GEYJ105
R23238		Carbon chip 100ohm 1/16W	ERJ3GEYF101
R23239		Carbon chip 22ohm 1/16W	ERJ3GEYJ220
R23240		Carbon chip 100ohm 1/16W	ERJ3GEYJ101
R23243		Carbon chip 330ohm 1/16W	ERJ3GEYJ331
R24241		Carbon chip 150ohm 1/16W	ERJ3GEYJ151
R25201		Carbon chip 10ohm 1/2W	ERJ12YJ100
R25202		Carbon chip 12kohm 1/16W	ERJ3GEYJ123
R25205		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
R25206		Carbon chip 22kohm 1/16W	ERJ3GEYJ223
R25207		Carbon chip 43kohm 1/16W	ERJ3GEYJ433
R25209		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
R25210		Carbon chip 6.8kohm 1/16W	ERJ3GEYF682
R25211		Carbon chip 22kohm 1/16W	ERJ3GEYJ223
R25212		Carbon chip 7.5kohm 1/16W	ERJ3GEYJ752
R25213		Carbon chip 10kohm 1/16W	ERJ3GEYJ103
R25214		Carbon chip 22kohm 1/16W	ERJ3GEYJ223
R25215		Carbon chip 3.3kohm 1/16W	ERJ3GEYG332
R25216		Carbon chip 6.8kohm 1/16W	ERJ3GEYF682
R25217,18		Carbon chip 470kohm 1/16W	ERJ3GEYJ474
R25219,20		Carbon chip 22kohm 1/16W	ERJ3GEYJ223
R25221,22		Carbon chip 33kohm 1/16W	ERJ3GEYJ333
R25223		Carbon chip 510kohm 1/16W	ERJ3GEYJ514
R25224		Carbon chip 2.2ohm 1/16W	ERJ3GEYJ2R2
R26201		Carbon chip 10kohm 1/16W	ERJ3GEYJ103
R26202		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
R26203		Carbon chip 2.2kohm 1/16W	ERJ3GEYJ222
R26204		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
R26205		Carbon chip 2.2kohm 1/16W	ERJ3GEYJ222
R26206,07		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
R26301		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
R26311		Carbon chip 4.7kohm 1/16W	ERJ3GEYG472
R26312		Carbon chip 10kohm 1/16W	ERJ3GEYJ103
R26603		Carbon chip 47kohm 1/16W	ERJ3GEYG473
R26604		Carbon chip 22kohm 1/16W	ERJ3GEYG223
R26605		Carbon chip 33kohm 1/16W	ERJ3GEYJ333
R26606		Carbon chip 15kohm 1/16W	ERJ3GEYJ153
R26607		Carbon chip 1Mohm 1/16W	ERJ3GEYJ105
R26612,13		Carbon chip 22kohm 1/16W	ERJ3GEYJ223
R26615		Carbon chip 1Mohm 1/16W	ERJ3GEYJ105
R26616,17		Carbon chip 100ohm 1/16W	ERJ3RBD101
R26618		Carbon chip 1Mohm 1/16W	ERJ3GEYJ105
R26619		Carbon chip 100ohm 1/16W	ERJ3RBD101

Ref. No.	Part No.	Part Name	Remarks
R27001		Carbon chip 1kohm 1/16W	ERJ3GEYG102
R27002		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
R27003		Carbon chip 470ohm 1/16W	ERJ3GEYG471
R27004		Carbon chip 47kohm 1/16W	ERJ3GEYJ473
R27051~55		Carbon chip 33ohm 1/16W	ERJ3GEYJ330
K22001		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
K22003		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
K23021,22		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
K23201		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
K24201~03		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
K26311		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
K26502		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
K26602		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
K26604,05		Carbon chip 0ohm 1/16W	ERJ3GEY0R00
RA23001	928 9018 102	Resistor-resistor 47kohm	EXBV8V473J
RA23002	928 9018 115	Resistor-resistor 47kohm	EXBV4V473J
RA23241	928 9018 128	Resistor-resistor 330ohm	EXBV4V331J
RA23242,43	928 9018 157	Resistor-resistor 470ohm	EXBV8V471J
RA26201,02	928 9018 131	Resistor-resistor 10kohm	EXBV4V103J
RA26203	928 9018 144	Resistor-resistor 2.2kohm	EXBV4V222J
RA26204~06	928 9018 115	Resistor-resistor 47kohm	EXBV4V473J
RA27001	928 9018 160	Resistor-resistor 470ohm	EXBV4V471J
RA27002,03	928 9018 102	Resistor-resistor 47kohm	EXBV8V473J
VR23231,32	928 0110 601	Variable resistor 2kohm	VRV0293B202T
VR23233	928 0096 903	Variable resistor 200ohm	VRV0293B201T

CAPACITORS GROUP

Ref. No.	Part No.	Part Name	Remarks
C22001		Electrolytic 100µF/6.3V	EEVHB0J101
C22002		Ceramic chip 0.1µF/16V	ECUX1C104ZF/
C22003		Ceramic chip 0.1µF/16V	ECUX1C104KB✓
C22004,05		Ceramic chip 0.1µF/16V	ECUX1C104ZF/
C22006		Ceramic chip 0.01µF/50V	ECUX1H103KB✓
C22007		Ceramic chip 0.1µF/16V	ECUX1C104KB✓
C22008		Ceramic chip 2200pF/16V	ECUX1H222KB✓
C22009		Ceramic chip 0.1µF/16V	ECUX1C104KB✓
C22010		Ceramic chip 0.1µF/16V	ECUX1C104ZF/
C22011~13		Ceramic chip 0.1µF/16V	ECUX1C104KB✓
C22014,15		Ceramic chip 0.1µF/16V	ECUX1C104ZF/
C22016		Ceramic chip 3.3µF/10V	ECUM1A335K✓
C22017		Ceramic chip 0.01µF/50V	ECUX1H103KB✓
C22018		Ceramic chip 1200pF/50V	ECUX1H122KB✓
C22019		Ceramic chip 5600pF/50V	ECUX1H562KB✓

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
C22020		Ceramic chip 3900pF/50V	ECUX1H392KBV	C24211~13		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22021		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C24214		Tantalum chip 10μF/10V	ECST1AY106Z
C22024		Ceramic chip 1200pF/50V	ECUX1H122KBV	C24215		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22025		Ceramic chip 5600pF/50V	ECUX1H562KBV	C24216		Electrolytic 330μF/6.3V	ECEV0JA331
C22026		Ceramic chip 1200pF/50V	ECUX1H122KBV	C24217		Tantalum chip 10μF/10V	ECST1AY106Z
C22027		Ceramic chip 5600pF/50V	ECUX1H562KBV	C24218		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22029		Ceramic chip 3900pF/50V	ECUX1H392KBV	C24221~23		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22031,32		Ceramic chip 1000pF/50V	ECUX1H102KBV	C24224		Tantalum chip 10μF/10V	ECST1AY106Z
C22033,34		Ceramic chip 1200pF/50V	ECUX1H122KBV	C24225		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22035		Ceramic chip 1800pF/50V	ECUX1H182KBV	C24227		Tantalum chip 10μF/10V	ECST1AY106Z
C22036-38		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C24228		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22039		Ceramic chip 10pF/50V	ECUX1H100DCV	C24231,32		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22040		Ceramic chip 5600pF/50V	ECUX1H562KBV	C24241		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22501-03		Ceramic chip 0.1μF/16V	ECUX1C104KBV	C24242		Ceramic chip 39pF/50V	ECUX1H390JCV
C22504		Ceramic chip 0.01μF/50V	ECUX1H103KBV				
C22505,06		Ceramic chip 0.1μF/16V	ECUX1C104KBV	C24653		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C22507-09		Ceramic chip 0.1μF/16V	ECUX1C104ZFV				
C22511		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25201		Electrolytic 22μF/6.3V	EEVHB0J220
C22512		Electrolytic 22μF/16V	EEVHB1C220	C25202		Ceramic chip 56pF/50V	ECUX1H560JCV
C23001-16		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25203,04		Ceramic chip 1μF/10V	ECUM1A105KBN
C23019-27		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25205		Ceramic chip 0.18μF/10V	ECUM1A184KBV
C23028		Electrolytic 330μF/6.3V	ECEV0JA331	C25206,07		Ceramic chip 1μF/10V	ECUM1A105KBN
C23030		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25208,09		Ceramic chip 1000pF/50V	ECUX1H102KBV
C23037,38		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25210		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C23039		Electrolytic 330μF/6.3V	ECEV0JA331	C25211		Electrolytic 33μF/6.3V	EEVHB0J330
C23051-54		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25212,13		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C23055		Tantalum chip 10μF/10V	ECST1AY106Z	C25214		Ceramic chip 6800pF/50V	ECUX1H682KBV
C23056		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25215		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C23061-64		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25216		Ceramic chip 330pF/50V	ECUX1H331JCV
C23065		Tantalum chip 10μF/10V	ECST1AY106Z	C25217		Ceramic chip 0.22μF/10V	ECUX1A224KBV
C23066		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25218		Ceramic chip 1μF/10V	ECUM1A105KBN
				C25219,20		Ceramic chip 22pF/50V	ECUX1H221JCV
C23201		Ceramic chip 0.01μF/50V	ECUX1H103ZFV	C25221		Ceramic chip 0.1μF/16V	ECUX1C104KBV
C23202		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25222		Ceramic chip 0.22μF/10V	ECUX1A224KBV
C23211		Ceramic chip 0.01μF/50V	ECUX1H103ZFV	C25223		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C23212		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25224		Electrolytic 33μF/6.3V	EEVHB0J330
C23221		Ceramic chip 0.01μF/50V	ECUX1H103ZFV	C25225~28		Ceramic chip 0.1μF/16V	ECUX1C104KBV
C23222		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25229		Ceramic chip 1μF/10V	ECUM1A105KBN
C23223		Ceramic chip 1μF/10V	ECUM1A105KBN	C25230		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C23224		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25231		Ceramic chip 1μF/10V	ECUM1A105KBN
C23225		Ceramic chip 1μF/10V	ECUM1A105KBN	C25232,33		Ceramic chip 0.68μF/10V	ECUM1A684KBN
C23226,27		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25234		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C23241-45		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C25235		Ceramic chip 0.1μF/16V	ECUX1C104KBV
C23251,52		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C26201~06		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C23253		Tantalum chip 10μF/16V	ECST1CX106Z	C26207		Electrolytic 33μF/6.3V	EEVHB0J330
C23254		Electrolytic 33μF/6.3V	EEVHB0J330	C26251		Ceramic chip 0.1μF/16V	ECUX1C104ZFV
C24201-03		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C26252		Electrolytic 33μF/6.3V	EEVHB0J330
C24204		Tantalum chip 10μF/10V	ECST1AY106Z	C26253		Electrolytic 100μF/6.3V	EEVHB0J101
C24205		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C26254		Electrolytic 330μF/6.3V	ECEV0JA331
C24206		Electrolytic 1500μF/6.3V	EEVFC0J152XP	C26255		Ceramic chip 0.01μF/50V	ECUX1H103ZFV
C24207		Tantalum chip 10μF/10V	ECST1AY106Z				
C24208		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	C26301		Ceramic chip 0.1μF/16V	ECUX1C104ZFV

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks	Q'ty
C26311		Ceramic chip 100pF/50V	ECUX1H101JCV	L26501	928 0096 107	Coil 22μH		1
C26312		Ceramic chip 0.1μF/16V	ECUX1C104KBV	LB22501,02	928 0078 303	Coil		2
C26321		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB22503,04	928 0096 000	Inductor		2
C26502		Electrolytic 33μF/6.3V	EEVHB0J330	LB23001	928 0078 219	Coil		1
C26503		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB24241	928 0096 000	Inductor		1
C26506		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB24251~65	928 0096 000	Inductor		15
C26511		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB24271~88	928 0096 000	Inductor		18
C26514		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB26201~04	928 0078 206	Coil		4
C26516		Ceramic chip 0.1μF/16V	ECUX1C104KBV	LB26213	928 0078 219	Coil		1
C26519		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB26605	928 0078 219	Coil		1
C26521		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB26506	928 0096 000	Inductor		1
C26601		Ceramic chip 0.01μF/50V	ECUX1H103KBV	LB26511	928 0096 000	Inductor		1
C26602		Ceramic chip 1000pF/50V	ECUX1H102JCV	LB26513~15	928 0078 219	Coil		3
C26604		Ceramic chip 0.1μF/16V	ECUX1C104KBV	LB26516	928 0096 000	Inductor		1
C26605		Ceramic chip 8pF/50V	ECUX1H080DCV	LB26518	928 0078 219	Coil		1
C26606		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB26519	928 0096 000	Inductor		1
C26607		Electrolytic 33μF/6.3V	EEVHB0J330	LB26520	928 0078 219	Coil		1
C26608		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB26601	928 0096 000	Inductor		1
C26609		Ceramic chip 1000pF/50V	ECUX1H102JCV	LB26602	928 0078 219	Coil		1
C26612		Ceramic chip 12pF/50V	ECUX1H120JCV	LB26603,04	928 0096 000	Inductor		2
C26613		Ceramic chip 15pF/50V	ECUX1H150JCV	LB26606	928 0096 000	Inductor		1
C26614~16		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB26607	928 0098 219	Coil		1
C26617		Ceramic chip 15pF/50V	ECUX1H150JCV	LB26608	928 0096 000	Inductor		1
C26618		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	LB26609	928 0078 219	Coil		1
C26619		Ceramic chip 1μF/10V	ECUM1A105KBN	LB27001,02	928 0078 219	Coil		2
C27001~16		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	P24251	928 0097 805	5P connector (Male)		1
C27017,18		Electrolytic 100μF/6.3V	EEVHB0J101	P26251	928 0097 902	8P connector (Male)		1
C27021		Ceramic chip 1000pF/50V	ECUX1H102KBV	PS27001	928 0098 008	8P connector (female)		1
C27025		Ceramic chip 1μF/10V	ECUM1A105KBN	X26601	928 0110 708	Crystal oscillator		1
C27051		Ceramic chip 0.1μF/16V	ECUX1C104ZFV	X26602	928 0110 805	Crystal oscillator		1
C27052		Tantalum chip 6.8μF/10V	ECST1AY685Z	X26603	928 0110 902	Crystal oscillator		1
C27053		Ceramic chip 0.1μF/16V	ECUX1C104ZFV					
OTHER PARTS GROUP								
FL26251~54	928 0075 500	Filter						4
FP22501	928 0097 504	5P connector (female)						1
FP24201	928 0110 504	21P connector (female)						1
FP24203	928 0110 517	22P connector (female)						1
FP25201	928 0077 003	35P connector (female)						1
FP26201	928 0110 520	6P connector (female)						1
L22001,02	928 0075 209	Coil 10μH						2
L23251	928 0075 209	Coil 10μH						1
L25201	928 0075 209	Coil 10μH						1
L26251	928 0075 209	Coil 10μH						1

POWER SUPPLY P.W.B.

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP							
IC21011	928 0080 207	IC STRM6559LF		R21042		Carbon film 100ohm 1/4W	ERDS2FJ101
IC21121	928 0068 300	IC PQ3RD13		R21043		Carbon film 220kohm 1/4W	ERDS2FJ224
IC21135	928 0111 600	IC PQ09RD1X		R21044		Carbon film 10kohm 1/4W	ERDS2FJ103
IC21151	928 0111 600	IC PQ09RD1X		R21045		Carbon film 3.9Mohm 1/2W	ERDS1TJ395
				R21046		Carbon film 4.7Mohm 1/2W	ERDS1TJ475
△ PR21121	928 0076 208	IC protector VSF0015A10		R21101		Carbon film 100ohm 1/4W	ERDS2TJ101
△ PR21141	928 0076 208	IC protector VSF0015A10		R21103		Carbon film 330ohm 1/4W	ERDS2TJ331
△ PR21171	928 0076 208	IC protector VSF0015A10		R21104		Carbon film 390ohm 1/4W	ERDS2TJ391
				R21105		Carbon film 150ohm 1/4W	ERDS2TJ151
Q21031	928 0081 604	Transistor PS2561L1V1M		R21106		Carbon film 100ohm 1/4W	ERDS2TJ101
Q21101,02	928 0072 105	Transistor 2SD1991A-R		R21107		Carbon film 220ohm 1/4W	ERDS2TJ221
Q21111	928 0111 804	Transistor 2SJ525		R21108		Carbon film 240ohm 1/4W	ERDS2TJ241
Q21145	928 0111 901	Transistor 2SB1321AR		R21111		Carbon film 10kohm 1/4W	ERDS2TJ103
Q21146	928 0072 202	Transistor 2SB1320A-R		R21112		Carbon film 1Mohm 1/4W	ERDS2TJ105
Q21191	928 0112 007	Transistor 2SK170V		R21135		Metal oxide 8.2kohm 1/4W	ER0S2CHF8201
Q21195	928 0112 104	Transistor 2SJ74V		R21136		Metal oxide 1.5kohm 1/4W	ER0S2CHF1501
QR21111	928 0095 409	Transistor-resistor UN4213		R21145		Metal oxide 8.2kohm 1/4W	ER0S2CHF8201
D21001	928 0073 201	Diode S1WBA60S		R21146		Carbon film 330ohm 1/4W	ERDS2TJ331
D21002	928 0073 311	RF converter ENC471D5A		R21161		Carbon film 100kohm 1/4W	ERDS2TJ104
D21011	928 0079 603	Diode AP01C		R21181		Carbon film 100ohm 1/4W	ERDS2TJ101
D21021	928 0073 405	Diode AU01Z		R21191		Carbon film 560ohm 1/4W	ERDS2TJ561
D21031	928 0002 405	Diode MA165VT		R21193		Carbon film 1Mohm 1/4W	ERDS2TJ105
D21041	928 0111 309	Diode MA700		R21195		Carbon film 560ohm 1/4W	ERDS2TJ561
D21042	928 0079 700	Diode MA4200H		R21197		Carbon film 1Mohm 1/4W	ERDS2TJ105
D21101	928 0079 807	Diode MA4051MVT		K21191		Carbon film 0ohm 1/4W	ERDS2TY0
D21111	928 0111 406	Diode MA7D55		K21195		Carbon film 0ohm 1/4W	ERDS2TY0
D21121	928 0091 908	Diode 11ES1		CAPACITORS GROUP			
D21131	928 0111 503	Diode 11EQS10		C21001		Mylar film 0.15μF/250V	ECQU2A154MV
D21141	928 0111 503	Diode 11EQS10		C21002,03		Ceramic 470pF/	VCK0286B471
D21151,52	928 0111 503	Diode 11EQS10		C21004		Mylar film 0.068μF/250V	ECQU2A683MV
D21161	928 0073 405	Diode AU01Z		C21005		Ceramic 1000pF/	VCK0286E102
D21162	928 0023 701	Diode MA4030M		C21011		Electrolytic 68μF/400V	ECEC2GG680
D21171	928 0073 900	IC AK04		C21012		Ceramic 0.01μF/500V	ECKD2H103PU
D21191	928 0002 405	Diode MA165VT		C21013		Ceramic 120pF/1000V	ECCZ3A121 KGE
D21195	928 0002 405	Diode MA165VT		C21021		Electrolytic 47μF/35V	VCEA1VJC470
RESISTORS GROUP				C21031		Mylar film 0.01μF/50V	ECQB1H103JF
R21002		Composition 330kohm 1/2W	ERC12AGM334	C21042		Ceramic 1000pF/50V	ECKF1H102KB
R21011		Metal oxide 68kohm 1W	ERG1SJ683	C21043		Electrolytic 330μF/6.3V	VCEA0JC331
R21012		Metal oxide 0.82ohm 1W	ERX1SJR82	C21101		Mylar film 0.1μF/50V	ECQB1H104JF
R21013,14		Carbon film 470ohm 1/4W	ERDS2FJ471	C21114		Electrolytic 2200μF/10V	VCEA1AJC222
R21021,22		Carbon film 220kohm 1/4W	ERDS2FJ224	C21115		Ceramic 0.1μF/25V	ECFR1E104ZF
R21023		Metal oxide 10ohm 1/2W	ERG12SJ100	C21116		Electrolytic 220μF/10V	ECA1APXS221
R21031		Carbon film 1.8kohm 1/4W	ERDS2FJ182	C21117		Electrolytic 220μF/10V	ECA1APX221
R21041		Carbon film 1.5kohm 1/4W	ERDS2FJ152	C21118		Electrolytic 3900μF/10V	EEUFA1A392
				C21121		Electrolytic 1000μF/6.3V	ECA0JM102
				C21131		Electrolytic 180μF/25V	VCEA1EJH181
				C21133		Electrolytic 33μF/25V	VCEA1EJC330

OPERATION P.W.B.

Ref. No.	Part No.	Part Name	Remarks
C21135		Electrolytic 220μF/10V	ECA1APX221
C21136		Electrolytic 47μF/16V	VCEA1CJC470
C21141		Electrolytic 180μF/25V	VCEA1EJH181
C21143		Electrolytic 33μF/25V	VCEA1EJC330
C21145		Electrolytic 220μF/10V	ECA1APX221
C21146		Electrolytic 47μF/16V	VCEA1CJC470
C21147		Electrolytic 220μF/25V	VCEA1EJC221
C21151		Electrolytic 390μF/25V	EEUFA1E391
C21153		Electrolytic 220μF/25V	VCEA1EJC221
C21154		Electrolytic 220μF/16V	ECA1CM221
C21161		Electrolytic 82μF/50V	VCEA1HJH820
C21171		Electrolytic 330μF/10V	VCEA1AJH331
C21191		Mylar film 0.022μF/50V	ECQB1H223JF
C21192		Electrolytic 330μF/10V	ECA1APX331
C21193		Mylar film 0.022μF/50V	ECQB1H223JF
C21194		Electrolytic 470μF/10V	ECA1APX471
C21195		Mylar film 0.022μF/50V	ECQB1H223JF
C21196		Electrolytic 330μF/10V	ECA1APX331
C21197		Mylar film 0.022μF/50V	ECQB1H223JF
C21198		Electrolytic 470μF/10V	ECA1APX471

OTHER PARTS GROUP

Q'ty

Δ F21001	928 0079 001	Fuse	1
FP21103	928 0076 605	11P connector (female)	1
L21001,02	928 0096 408	Line filter	2
L21111	928 0096 505	Coil 10μH	1
L21112	928 0053 904	Inductor 10μH	1
L21131	928 0111 707	Coil 33μH	1
L21141	928 0111 707	Coil 33μH	1
L21151	928 0075 102	Coil 22μH	1
LB21011	928 0078 002	Coil	2
LB21014	928 0096 602	Coil	1
P21001	9MV JS31 66	AC inlet	1
P21101	928 0098 707	8P connector (male)	1
P21102	928 0098 804	16P connector (male)	1
T21011	928 0112 201	Transformer	1
ZA21001,02	9ME YF52 BC	Fuse holder	2
ZA21031	9MV MC13 59	Earth spring	1
ZA21111~14	9MV JR09 78	Earth angle	4

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC26001	928 0094 002	IC MN1872423CA	
IC26002	928 0071 203	IC PNA4601M03VT	
IC26003	928 0071 300	IC PST7023	
QR26001	928 0024 108	Transistor-resistor UN2212	
QR26002	928 0094 808	Transistor DTA123JK	
D26002~07	928 0002 405	Diode MA165VT	
DL26001	928 0111 008	Display tube	

RESISTORS GROUP

R26002,03		Carbon chip 10kohm 1/10W	ERJ6GEYG103
R26004		Carbon chip 220ohm 1/10W	ERJ6GEYG221
R26005		Carbon chip 330ohm 1/10W	ERJ6GEYG331
R26006~08		Carbon chip 220ohm 1/10W	ERJ6GEYG221
R26010		Carbon chip 220ohm 1/10W	ERJ6GEYG221
R26023~29		Carbon chip 47kohm 1/10W	ERJ6GEYF473
R26030~32		Carbon chip 100kohm 1/10W	ERJ6GEYG104
R26035~37		Carbon chip 100kohm 1/10W	ERJ6GEYG104
R26044,45		Carbon chip 47kohm 1/10W	ERJ6GEYF473

CAPACITORS GROUP

C26001		Electrolytic 10μF/50V	ECEA1HKA100
C26002		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
C26003		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C26004		Electrolytic 220μF/6.3V	ECEA0JKA221
C26005		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C26006		Electrolytic 47μF/6.3V	ECEA0JKA470
C26007		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C26008		Electrolytic 47μF/6.3V	ECEA0JKA470

OTHER PARTS GROUP

Q'ty

FP26001	928 0110 533	6P connector (female)	1
FP26002	928 0076 648	10P connector (female)	1
L26001	928 0111 105	Coil 100μH	1
L26002	928 0064 155	Coil 220μH	1
S26001	928 0074 909	Switch	1
S26004,05	928 0074 909	Switch	2
S26008~10	928 0074 909	Switch	3
X26001	928 0099 405	Ceramic oscillator	1

VOLUME P.W.B.

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
D26191	928 0113 705	LED LNJ2D1LPQJA	Red
RESISTORS GROUP			
VR24551	928 0113 802	Variable resistor 10kohm	EVJY15F01A14
OTHER PARTS GROUP			
FP24601	928 0076 635	10P connector (female)	
FP24602	928 0076 606	11P connector (female)	
FP24603	928 0110 546	5P connector (female)	
S26191	928 0074 909	Switch	

HEADPHONE JACK P.W.B.

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC24551	928 0111 202	IC M5218AFP	
RESISTORS GROUP			
R24551,52		Carbon chip 47ohm 1/8W	ERJ8GEYJ470
R24553		Carbon chip 15kohm 1/10W	ERJ6GEYG153
R24554		Carbon chip 12kohm 1/10W	ERJ6GEYF123
R24555		Carbon chip 15kohm 1/10W	ERJ6GEYG153
R24556		Carbon chip 12kohm 1/10W	ERJ6GEYF123
R24557,58		Carbon chip 1kohm 1/10W	ERJ6GEYG102
CAPACITORS GROUP			
C24551,52		Ceramic chip 0.1 μ F/50V	ECUM1H104ZFN
C24553,54		Ceramic chip 0.01 μ F/50V	ECUM1H103ZFN
C24555,56		Ceramic chip 0.1 μ F/50V	ECUM1H104ZFN
OTHER PARTS GROUP			
FP24551	928 0110 546	5P connector (female)	1
J24551	9MV JJ02 73	Headphone jack	1
L24551~53	928 0111 105	Coil 100 μ H	3

COAXIAL P.W.B.

Ref. No.	Part No.	Part Name	Remarks
RESISTORS GROUP			
R24490		Carbon chip 75ohm 1/10W	ERJ6GEYG750
CAPACITORS GROUP			
C24491		Ceramic chip 82pF/50V	ECUM1H820JCN
C24492		Ceramic chip 1000pF/50V	ECUM1H102KBN
OTHER PARTS GROUP			Q'ty
J24490	9MV JJ05 90	1P pin jack	1
J24491	928 0114 500	Flat card cable	1
LB24490,91		Chip bead	2

AV JACK P.W.B.

Ref. No.	Part No.	Part Name	Remarks
SEMICONDUCTORS GROUP			
IC23531	928 0068 902	IC AN3581S	
IC24450	928 0112 706	IC TC7W04F	
IC24452	9MT OTX1 78	IC TOTX178	
IC24501	928 0111 202	IC M5218AFP	
Q23501	928 0113 404	Transistor 2SA1022-B	
Q23503	928 0113 307	Transistor 2SC2404-D	
Q23504	928 0113 307	Transistor 2SC2295-B	
Q23530	928 0113 501	Transistor 2SC2295-B	
Q23531	928 0113 501	Transistor 2SA1022-B	
Q23534	928 0113 501	Transistor 2SA1022-B	
Q23601	928 0113 608	Transistor 2SD601A	
Q23650	928 0113 608	Transistor 2SD601A	
Q23660	928 0113 608	Transistor 2SD601A	
Q23670	928 0113 608	Transistor 2SD601A	
Q24405-12	928 0094 905	Transistor 2SD1328	
Q24501,02	928 0113 608	Transistor 2SD601A	
QR23501	928 0024 302	Transistor-resistor UN2211	
QR23531,32	928 0024 302	Transistor-resistor UN2211	
QR24400	928 0024 302	Transistor-resistor UN2211	
QR24401	928 0036 905	Transistor-resistor UN2115	
QR24402	928 0024 302	Transistor-resistor UN2211	
QR24403,04	928 0026 601	Transistor-resistor UN2111	
D23501	928 0112 308	Diode MA742	
D24400	928 0091 209	Diode MA3047M	
D24401	928 0112 405	Diode MA152A	
D24402	928 0074 307	Diode MA152WA	
D24403,04	928 0112 405	Diode MA152A	
RESISTORS GROUP			
R23501		Carbon chip 560ohm 1/10W	ERJ6GEYF561
R23502		Carbon chip 100ohm 1/10W	ERJ6GEYG101
R23503		Carbon chip 1kohm 1/10W	ERJ6GEYG102
R23504		Carbon chip 470ohm 1/10W	ERJ6GEYG471
R23507		Carbon chip 11kohm 1/10W	ERJ6ENF1102
R23508		Carbon chip 8.2kohm 1/10W	ERJ6ENF8201
R23509		Carbon chip 1kohm 1/10W	ERJ6GEYG102
R23510		Carbon chip 470ohm 1/10W	ERJ6GEYG471
R23511		Carbon chip 10kohm 1/10W	ERJ6GEYG103
R23514		Carbon chip 22ohm 1/10W	ERJ6GEYG220
R23515		Carbon chip 2.2kohm 1/10W	ERJ6GEYG222

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
R23516		Carbon chip 3.9kohm 1/10W	ERJ6GEYG392	R24509,10		Carbon chip 0ohm 1/10W	ERJ6GEY0R00
R23517		Carbon chip 270ohm 1/10W	ERJ6GEYG271	R24679-81		Carbon chip 820ohm 1/10W	ERJ6GEYG821
R23532,33		Carbon chip 10kohm 1/10W	ERJ6GEYG103	R24711		Carbon chip 10kohm 1/10W	ERJ6GEYG103
R23534,35		Carbon chip 470ohm 1/10W	ERJ6GEYJ471	K24301		Carbon chip 0ohm 1/10W	ERJ6GEY0R00
R23537		Carbon chip 100ohm 1/10W	ERJ6GEYG101	CAPACITORS GROUP			
R23538		Carbon chip 220ohm 1/10W	ERJ6GEYG221	C23501		Electrolytic 100μF/16V	ECEA1CKA101
R23539		Carbon chip 240ohm 1/10W	ERJ6GEYJ241	C23502,03		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R23540		Carbon chip 820ohm 1/10W	ERJ6GEYG821	C23504		Ceramic chip 33pF/50V	ECUM1H330JCN
R23542		Carbon chip 1kohm 1/10W	ERJ6GEYG102	C23505		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R23543		Carbon chip 330ohm 1/10W	ERJ6GEYG331	C23506		Electrolytic 33μF/16V	ECEA1CKA330
R23554-56		Carbon chip 1kohm 1/10W	ERJ6GEYG102	C23507		Electrolytic 1μF/50V	ECEA1HKA010
R23557		Carbon chip 470ohm 1/10W	ERJ6GEYG471	C23508		Electrolytic 100μF/16V	ECEA1CKA101
R23558,59		Carbon chip 75ohm 1/10W	ERJ6ENF75R0	C23509		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R23560		Carbon chip 10kohm 1/10W	ERJ6GEYG103	C23510		Electrolytic 100μF/16V	ECEA1CKA101
R23563,64		Carbon chip 71.5ohm 1/10W	ERJ6ENF71R5	C23511		Ceramic chip 15pF/50V	ECUM1H150JCN
R23601		Carbon chip 560ohm 1/10W	ERJ6GEYF561	C23512		Electrolytic 2.2μF/50V	ECEA1HKA2R2
R23602		Carbon chip 3kohm 1/10W	ERJ6GEYG302	C23513		Ceramic chip 0.01μF/50V	ECUM1H103KBN
R23604,05		Carbon chip 18kohm 1/10W	ERJ6GEYG183	C23530		Electrolytic 470μF/6.3V	ECA0JM471
R23606		Carbon chip 1.5kohm 1/10W	ERJ6GEYG152	C23531		Ceramic chip 270pF/50V	ECUM1H271JCN
R23650		Carbon chip 560ohm 1/10W	ERJ6GEYF561	C23532		Ceramic chip 82pF/50V	ECUM1H820JCN
R23651		Carbon chip 10kohm 1/10W	ERJ6GEYG103	C23533		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R23652		Carbon chip 100ohm 1/10W	ERJ6GEYG101	C23534		Ceramic chip 82pF/50V	ECUM1H820JCN
R23653		Carbon chip 1.2kohm 1/10W	ERJ6GEYF123	C23550		Electrolytic 100μF/16V	ECEA1CKA101
R23654		Carbon chip 330ohm 1/10W	ERJ6GEYG331	C23551		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R23660		Carbon chip 560ohm 1/10W	ERJ6GEYF561	C23552		Electrolytic 47μF/16V	ECEA1CKA470
R23661		Carbon chip 10kohm 1/10W	ERJ6GEYG103	C23553		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R23662		Carbon chip 100ohm 1/10W	ERJ6GEYG101	C23555		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R23663		Carbon chip 12kohm 1/10W	ERJ6GEYF123	C23556		Ceramic chip 0.01μF/50V	ECUM1H103KBN
R23664		Carbon chip 330ohm 1/10W	ERJ6GEYG331	C23557		Electrolytic 220μF/10V	ECEA1AKA221
R23670		Carbon chip 560ohm 1/10W	ERJ6GEYF561	C23558,59		Electrolytic 22μF/16V	ECEA1CKA220
R23671		Carbon chip 10kohm 1/10W	ERJ6GEYG103	C23560		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R23672		Carbon chip 100ohm 1/10W	ERJ6GEYG101	C23561,62		Electrolytic 1000μF/6.3V	ECA0JM102
R23673		Carbon chip 12kohm 1/10W	ERJ6GEYF123	C23564		Ceramic chip 0.01μF/50V	ECUM1H103KBN
R23674		Carbon chip 330ohm 1/10W	ERJ6GEYG331	C23601		Ceramic chip 0.01μF/50V	ECUM1H103KBN
R24400		Carbon chip 330ohm 1/10W	ERJ6GEYG331	C23602		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R24401		Carbon chip 22kohm 1/10W	ERJ6GEYG223	C23651		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R24402		Carbon chip 33kohm 1/10W	ERJ6GEYF333	C23652		Ceramic chip 15pF/50V	ECUM1H150JCN
R24403		Carbon chip 10kohm 1/10W	ERJ6GEYG103	C23661		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R24404		Carbon chip 1kohm 1/10W	ERJ6GEYG102	C23662		Ceramic chip 15pF/50V	ECUM1H150JCN
R24405		Carbon chip 10kohm 1/10W	ERJ6GEYG103	C23671		Ceramic chip 0.01μF/50V	ECUM1H103ZFN
R24406		Carbon chip 22kohm 1/10W	ERJ6GEYG223	C23672		Ceramic chip 15pF/50V	ECUM1H150JCN
R24407-19		Carbon chip 820ohm 1/10W	ERJ6GEYG821	C24400		Electrolytic 100μF/6.3V	ECEA0JKA101
R24420-27		Carbon chip 220ohm 1/10W	ERJ6GEYG221	C24401-08		Ceramic chip 1000pF/50V	ECUM1H102JCN
R24428		Carbon chip 1kohm 1/10W	ERJ6GEYG102	C24409-14		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
R24451		Carbon chip 10ohm 1/10W	ERJ6GEYJ100	C24450		Electrolytic 4.7μF/50V	ECEA1HKA4R7
R24501		Carbon chip 3.9kohm 1/10W	ERJ6GEYG392				
R24502,03		Carbon chip 820ohm 1/10W	ERJ6GEYG821				
R24504		Carbon chip 3.9kohm 1/10W	ERJ6GEYG392				
R24505,06		Carbon chip 1kohm 1/10W	ERJ6GEYG102				

AC-3 P.W.B.

Ref. No.	Part No.	Part Name	Remarks
C24451		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C24452		Electrolytic 4.7μF/50V	ECEA1HKA4R7
C24453		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C24454		Ceramic chip 270pF/50V	ECUM1H271JCN
C24456,57		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C24458		Electrolytic 100μF/6.3V	ECEA0JKA101
C24501		Electrolytic 10μF/16V	ECEA1CKA100
C24502		Electrolytic 100μF/16V	ECEA1CKA101
OTHER PARTS GROUP			
Ref. No.	Part No.	Part Name	Remarks
FL23501	928 0112 502	Filter	1
FL23601	928 0099 609	Filter	1
FL23650	928 0112 502	Filter	1
FL23660	928 0112 609	Filter	1
FP24301	928 0079 409	20P connector (female)	1
G24301-03	9MV JR09 78	Earth angle	3
J23551	9MV JJ05 61	YC connector	1
J24301	9MV JJ05 94	6P pin jack	1
J24302	9MV JJ05 92	2P pin jack	1
L23501,02	928 0075 306	Coil 22μH	2
L23531	928 0112 803	Coil 8.2μH	1
L23550,51	928 0075 306	Coil 22μH	2
L24400	928 0096 204	Coil 10μH	1
L24402,03	928 0096 204	Coil 10μH	2
L24404	928 0053 904	Inductor 10μH	1
L24405	928 0096 204	Coil 10μH	1
L24450	928 0112 900	Coil 0.1μH	1
L24451	928 0075 306	Coil 22μH	1
LB23552-55	928 0078 235	Coil	4
LB24301-08	928 0078 235	Coil	8
P24301	928 0113 006	22P connector (female)	1
P24302	928 0098 406	16P connector (female)	1
P24303	928 0113 103	20P connector (male)	1
P24450	928 0098 503	5P connector (male)	1
P24451	928 0113 200	3P connector (female)	1
T24450	9MV LQ07 90	Transformer	1
SEMICONDUCTORS GROUP			
IC24302,03	928 0069 901	IC NJM4580M	
IC24304,05	928 0114 607	IC TC9412AFELP	
IC24306-12	928 0069 901	IC NJM4580M	
Q24307-10	928 0113 608	Transistor 2SD601A	
RESISTORS GROUP			
R24302-05		Carbon chip 100ohm 1/10W	ERJ6GEYG101
R24310,11		Carbon chip 100ohm 1/10W	ERJ6GEYG101
R24312-15		Carbon chip 100kohm 1/10W	ERJ6GEYG104
R24316-22		Carbon chip 7.5kohm 1/10W	ERJ6GEYG752
R24323		Carbon chip 10kohm 1/10W	ERJ6GEYG103
R24324		Carbon chip 7.5kohm 1/10W	ERJ6GEYG752
R24325-27		Carbon chip 10kohm 1/10W	ERJ6GEYG103
R24328,29		Carbon chip 2.2kohm 1/10W	ERJ6GEYG222
R24330,31		Carbon chip 10kohm 1/10W	ERJ6RBD103
R24332,33		Carbon chip 20kohm 1/10W	ERJ6RBD203
R24334,35		Carbon chip 2.2kohm 1/10W	ERJ6GEYG222
R24336-39		Carbon chip 7.5kohm 1/10W	ERJ6RBD752
R24340,41		Carbon chip 10kohm 1/10W	ERJ6RBD103
R24342-45		Carbon chip 27kohm 1/10W	ERJ6RBD273
R24346,47		Carbon chip 100ohm 1/10W	ERJ6RBD101
R24348,49		Carbon chip 100kohm 1/10W	ERJ6RBD104
R24350,51		Carbon chip 10kohm 1/10W	ERJ6RBD103
R24352,53		Carbon chip 100kohm 1/10W	ERJ6RBD104
R24354		Carbon chip 330ohm 1/10W	ERJ6RBD331
R24355		Carbon chip 33kohm 1/10W	ERJ6RBD333
R24356		Carbon chip 330ohm 1/10W	ERJ6RBD331
R24357		Carbon chip 33kohm 1/10W	ERJ6RBD333
R24358,59		Carbon chip 3.9kohm 1/10W	ERJ6GEYG392
R24360		Carbon chip 5.6kohm 1/10W	ERJ6GEYG562
R24361		Carbon chip 3.9kohm 1/10W	ERJ6GEYG392
R24362		Carbon chip 5.6kohm 1/10W	ERJ6GEYG562
R24363,64		Carbon chip 3.9kohm 1/10W	ERJ6GEYG392
R24365		Carbon chip 5.6kohm 1/10W	ERJ6GEYG562
R24366		Carbon chip 3.9kohm 1/10W	ERJ6GEYG392
R24367-71		Carbon chip 5.6kohm 1/10W	ERJ6GEYG562
R24372-79		Carbon chip 47kohm 1/10W	ERJ6GEYF473
CAPACITORS GROUP			
C24301,02		Electrolytic 10μF/16V	ECA1CAK100X
C24303		Electrolytic 47μF/16V	ECA1CAK470X
C24304		Electrolytic 47μF/6.3V	VCEA0JAE470
C24305		Electrolytic 47μF/6.3V	ECEA0JPZ470
C24306		Electrolytic 47μF/6.3V	VCEA0JAE470
C24307-10		Ceramic chip 1000pF/50V	ECUM1H102JCN

AV 21P P.W.B.

Ref. No.	Part No.	Part Name	Remarks	Ref. No.	Part No.	Part Name	Remarks
C24311~14		Ceramic chip 100pF/50V	ECUM1H101JCN	SEMICONDUCTORS GROUP			
C24315		Electrolytic 10μF/16V	ECA1CAK100X	IC23801	928 0114 102	IC NJM2267M	
C24316		Electrolytic 47μF/6.3V	ECEA0JPZ470	IC23802	928 0114 209	IC BA7660FS	
C24317		Ceramic chip 0.1μF/50V	ECUM1H104ZFN	IC23803~06	928 0080 906	IC MC14053BF	
C24318		Electrolytic 47μF/6.3V	ECEA0JPZ470	IC23807	9MT C4W5 3F	IC TC4W53F	
C24319		Electrolytic 10μF/16V	ECA1CAK100X	IC23808	928 0114 306	IC AN79L05M	
C24320		Ceramic chip 0.1μF/50V	ECUM1H104ZFN	IC23809	928 0114 403	IC NJM4558M	
C24321		Electrolytic 220μF/10V	ECA1APX221				
C24323,24		Ceramic chip 0.1μF/50V	ECUM1H104ZFN	Q23860	928 0081 303	Transistor 2SB710-R	
C24325		Electrolytic 220μF/10V	ECA1APX221	Q23861	928 0115 004	Transistor XN4402	
C24326		Mylar film 100pF/50V	ECHR1H101JZ	Q23863	928 0081 206	Transistor 2SD602A-R	
C24327		Electrolytic 47μF/16V	ECA1CAK470X	Q23880	928 0115 101	Transistor XN4502	
C24328		Mylar film 100pF/50V	ECHR1H101JZ	Q23881	928 0081 303	Transistor 2SB710-R	
C24329		Electrolytic 10μF/16V	ECA1CAK100X	Q23883	928 0115 208	Transistor XN4401	
C24331		Electrolytic 47μF/16V	ECA1CAK470X				
C24332		Electrolytic 10μF/16V	ECA1CAK100X	QR23860	928 0115 305	Transistor XN1213	
C24333		Ceramic chip 0.01μF/50V	ECUM1H103ZFN	QR23861	928 0081 400	Transistor-resistor UN2217	
C24334,35		Mylar film 1000pF/50V	ECHR1H102JZ	QR23862	928 0115 402	Transistor XN1112	
C24336		Electrolytic 470μF/10V	ECA1APX471	QR23864	928 0115 305	Transistor XN1213	
C24337,38		Mylar film 100pF/50V	ECHR1H101JZ	QR23880	928 0115 305	Transistor XN1213	
C24339~42		Ceramic chip 18pF/50V	ECUM1H180JCN	QR23881	928 0081 400	Transistor-resistor UN2217	
C24343		Electrolytic 470μF/10V	ECA1APX471	QR23882	928 0115 305	Transistor XN1213	
C24344		Ceramic chip 0.01μF/50V	ECUM1H103ZFN	QR23883	928 0115 509	Transistor-resistor UN2213	
C24345,46		Mylar film 0.022μF/50V	ECHR1H223JZ	QR23884	928 0115 305	Transistor XN1213	
C24347,48		Electrolytic 47μF/6.3V	VCEA0JAE470				
C24349		Electrolytic 47μF/16V	ECA1CAK470X	D23803		Ceramic chip 100pF/50V	ECUM1H101JCN
C24350		Electrolytic 47μF/10V	ECA1ANK470X	D23807		Ceramic chip 100pF/50V	ECUM1H101JCN
C24351~53		Electrolytic 47μF/16V	ECA1CAK470X	D23821	928 0113 909	Diode MA8120-L	
C24354		Electrolytic 47μF/6.3V	ECEA0JPZ470	D23860	928 0112 405	Diode MA152A	
C24355		Ceramic chip 0.1μF/50V	ECUM1H104ZFN	D23861	928 0114 005	Diode MA152WK	
C24356		Carbon chip 0ohm 1/10W	ERJ6GEY0R00	D23880	928 0112 405	Diode MA152A	
C24357,58		Ceramic chip 0.1μF/50V	ECUM1H104ZFN				
OTHER PARTS GROUP				RESISTORS GROUP			
FP24302	928 0079 409	20P connector (female)		R23801	928 9012 881	Carbon chip 100ohm 1/10W	ERJ6GEYG101
FP24304	928 0110 559	21P connector (female)		R23802	928 9013 217	Carbon chip 820ohm 1/10W	ERJ6GEYG821
				R23803,04	928 9012 881	Carbon chip 100ohm 1/10W	ERJ6GEYG101
				R23805		Carbon chip 75ohm 1/10W	ERJ6ENF75R0
				R23806	928 9012 881	Carbon chip 100ohm 1/10W	ERJ6GEYG101
				R23807	928 9013 217	Carbon chip 820ohm 1/10W	ERJ6GEYG821
				R23808,09	928 9012 881	Carbon chip 100ohm 1/10W	ERJ6GEYG101
				R23810,11	928 9015 228	Carbon chip 0ohm 1/10W	ERJ6GEYOR00
				R23812		Carbon chip 75ohm 1/10W	ERJ6ENF75R0
				R23813	928 9015 228	Carbon chip 0ohm 1/10W	ERJ6GEYOR00
				R23814~16	928 9015 105	Carbon chip 5.6kohm 1/10W	ERJ6GEYG562
				R23817,18		Carbon chip 75ohm 1/10W	ERJ6GEYG750
				R23819		Carbon chip 75ohm 1/10W	ERJ6ENF75R0
				R23820~22	928 9015 150	Carbon chip 33kohm 1/10W	ERJ6GEYF333
				R23823		Carbon chip 75ohm 1/10W	ERJ6ENF75R0
				R23824~26		Carbon chip 75ohm 1/10W	ERJ6GEYG750
				R23828		Carbon chip 150ohm 1/10W	ERJ6GEYG151
				R23829	928 9015 228	Carbon chip 0ohm 1/10W	ERJ6GEYOR00

Ref. No.	Part No.	Part Name	Remarks
R23831		Carbon chip 150ohm 1/10W	ERJ6GEYG151
R23833,34	928 9015 228	Carbon chip 0ohm 1/10W	ERJ6GEY0R00
R23835~38		Carbon chip 150ohm 1/10W	ERJ6GEYG151
R23839		Carbon chip 75ohm 1/10W	ERJ6ENF75R0
R23860	928 9012 849	Carbon chip 4.7kohm 1/10W	ERJ6GEYF472
R23861,62	928 9013 068	Carbon chip 3.3kohm 1/10W	ERJ6GEYG332
R23863	928 9015 105	Carbon chip 5.6kohm 1/10W	ERJ6GEYG562
R23864	928 9013 068	Carbon chip 3.3kohm 1/10W	ERJ6GEYG332
R23865,66	928 9015 105	Carbon chip 5.6kohm 1/10W	ERJ6GEYG562
R23867	928 9013 042	Carbon chip 2.7kohm 1/10W	ERJ6GEYG272
R23868	928 9013 068	Carbon chip 3.3kohm 1/10W	ERJ6GEYG332
R23869	928 9013 181	Carbon chip 680ohm 1/10W	ERJ6GEYG681
R23880,81	928 9013 068	Carbon chip 3.3kohm 1/10W	ERJ6GEYG332
R23882	928 9015 105	Carbon chip 5.6kohm 1/10W	ERJ6GEYG562
R23883	928 9012 849	Carbon chip 4.7kohm 1/10W	ERJ6GEYF472
R23884,85	928 9013 068	Carbon chip 3.3kohm 1/10W	ERJ6GEYG332
R23886	928 9013 178	Carbon chip 68ohm 1/10W	ERJ6GEYG680
R23887	928 9013 068	Carbon chip 3.3kohm 1/10W	ERJ6GEYG332
R23888~91	928 9012 849	Carbon chip 4.7kohm 1/10W	ERJ6GEYF472
R23892,93	928 9012 917	Carbon chip 100kohm 1/10W	ERJ6GEYG104
K23801,02		Carbon chip 0ohm 1/10W	ERJ6GEY0R00

CAPACITORS GROUP

C23801		Electrolytic 100μF/16V	ECEA1CKA101
C23802		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C23803,04		Ceramic chip 470pF/50V	ECUM1H471JCN
C23805,06		Electrolytic 4.7μF/50V	ECEA1HKA4R7
C23807~10		Ceramic chip 470pF/50V	ECUM1H471JCN
C23811,12		Electrolytic 100μF/6.3V	ECEA0JKA101
C23813,14		Electrolytic 330μF/6.3V	ECEA0JKA331
C23815,16		Ceramic chip 470pF/50V	ECUM1H471JCN
C23817		Electrolytic 100μF/16V	ECEA1CKA101
C23818		Electrolytic 100μF/6.3V	ECEA0JKA101
C23819		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C23820		Electrolytic 22μF/16V	ECEA1CKA220
C23821		Electrolytic 47μF/10V	ECEA1AKN470
C23822		Electrolytic 100μF/6.3V	ECEA0JKA101
C23823		Electrolytic 47μF/10V	ECEA1AKN470
C23824		Electrolytic 22μF/16V	ECEA1CKA220
C23825		Electrolytic 100μF/6.3V	ECEA0JKA101
C23826		Electrolytic 47μF/10V	ECEA1AKN470
C23827		Electrolytic 22μF/16V	ECEA1CKA220
C23828~37		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C23838		Electrolytic 47μF/16V	ECEA1CKS470
C23839		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C23840		Electrolytic 47μF/16V	ECEA1CKS470
C23841~43		Ceramic chip 0.1μF/50V	ECUM1H104ZFN
C23844,45		Electrolytic 47μF/16V	ECEA1EKS470

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER PARTS GROUP				
J23801,02	9MVJS39 21	21P connector (female)		2
L23801	928 0114 801	Coil 470μH		1
L23802	928 0114 908	Coil 47μH		1
L23803	928 0114 801	Coil 470μH		1
L23804	928 0114 908	Coil 47μH		1
L23805	928 0075 306	Coil 22μH		1
LB23801-05	928 0078 235	Coil		5
PS23801	928 0110 562	20P connector (female)		1

MECHANISM I/F P.W.B.

Ref. No.	Part No.	Part Name	Remarks	
CAPACITORS GROUP				
C20001,02		Ceramic chip 1 μ F/16V	ECUM1C105ZFN	
OTHER PARTS GROUP				Q'ty
FP20001	928 0077 100	26P connector (female)		1
FP20002	928 0077 016	35P connector (female)		1
FP20003	928 0077 029	11P connector (female)		1
P20004,05	928 0076 305	2P connector (male)		2

LOADING MOTOR P.W.B.

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER PARTS GROUP				
FP20101	928 0077 210	5P connector (female)		1
S20102	9MV SH01 68	Switch		1

DENON

NIPPON COLUMBIA CO., LTD.

14-14, AKASAKA 4-CHOME, MINATO-KU, TOKYO 107-8011 JAPAN

Telephone: 03 (3584) 8111

Cable: NIPPON COLUMBIA TOKYO Telex: JAPANOLA J22591